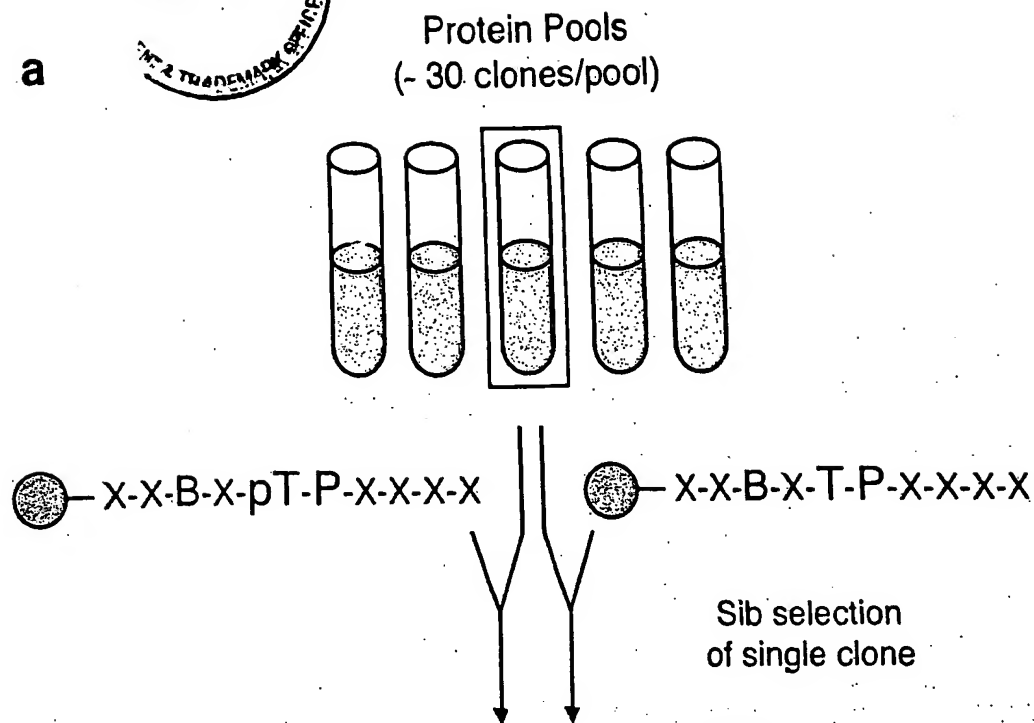


a



b

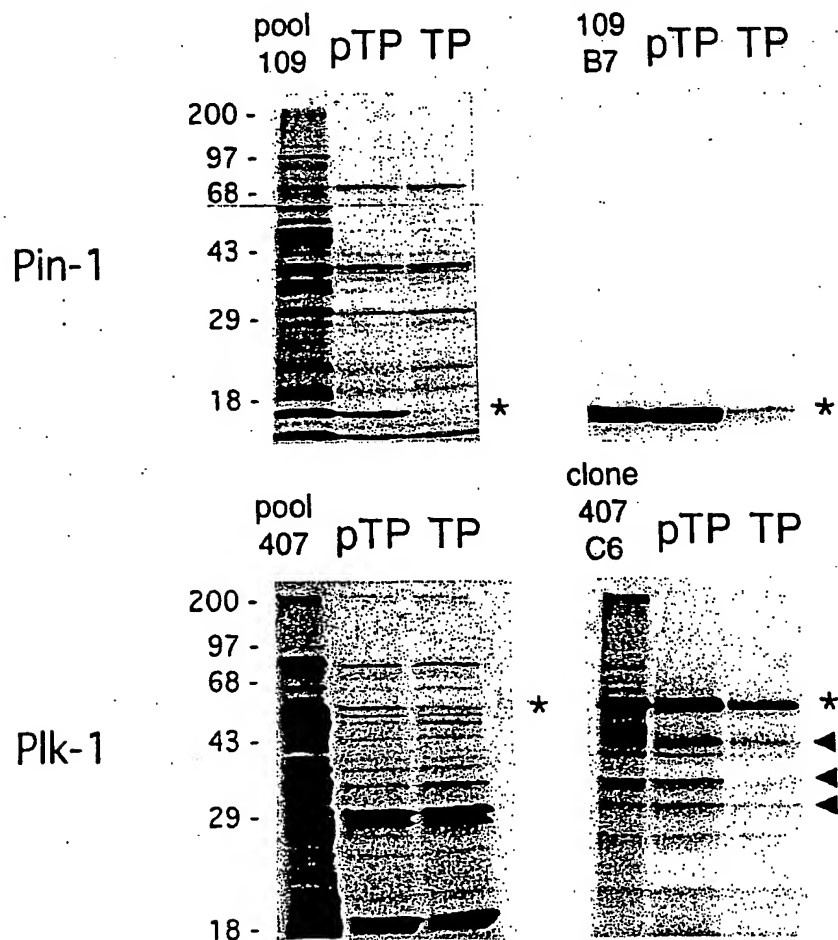
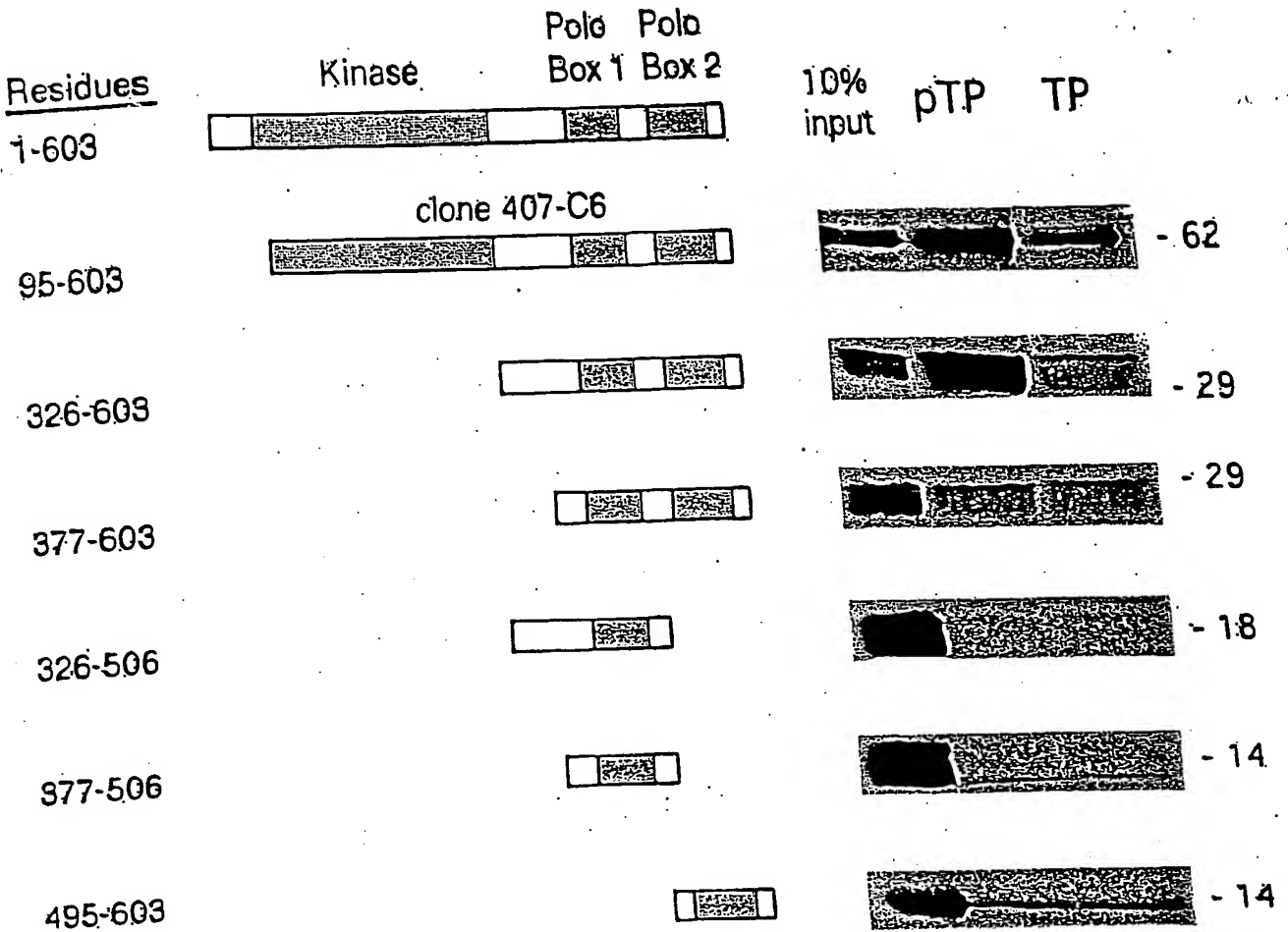


Figure 1

BEST AVAILABLE COPY

Figure 2

a



b

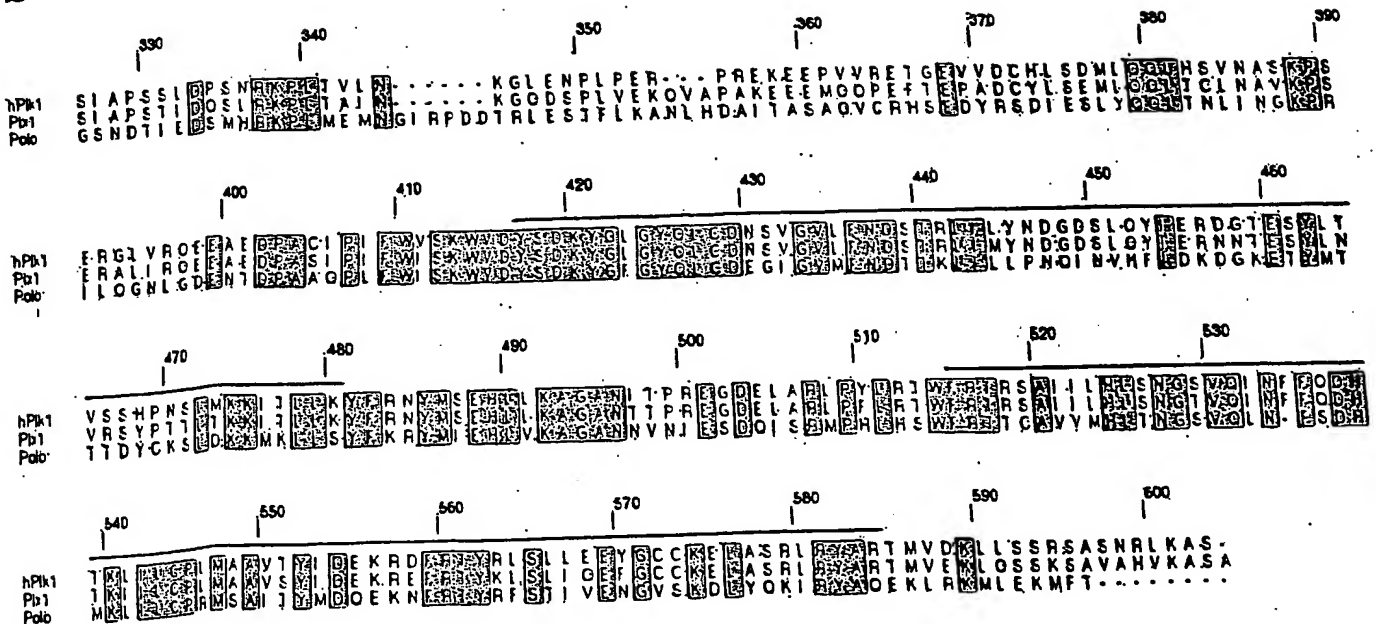
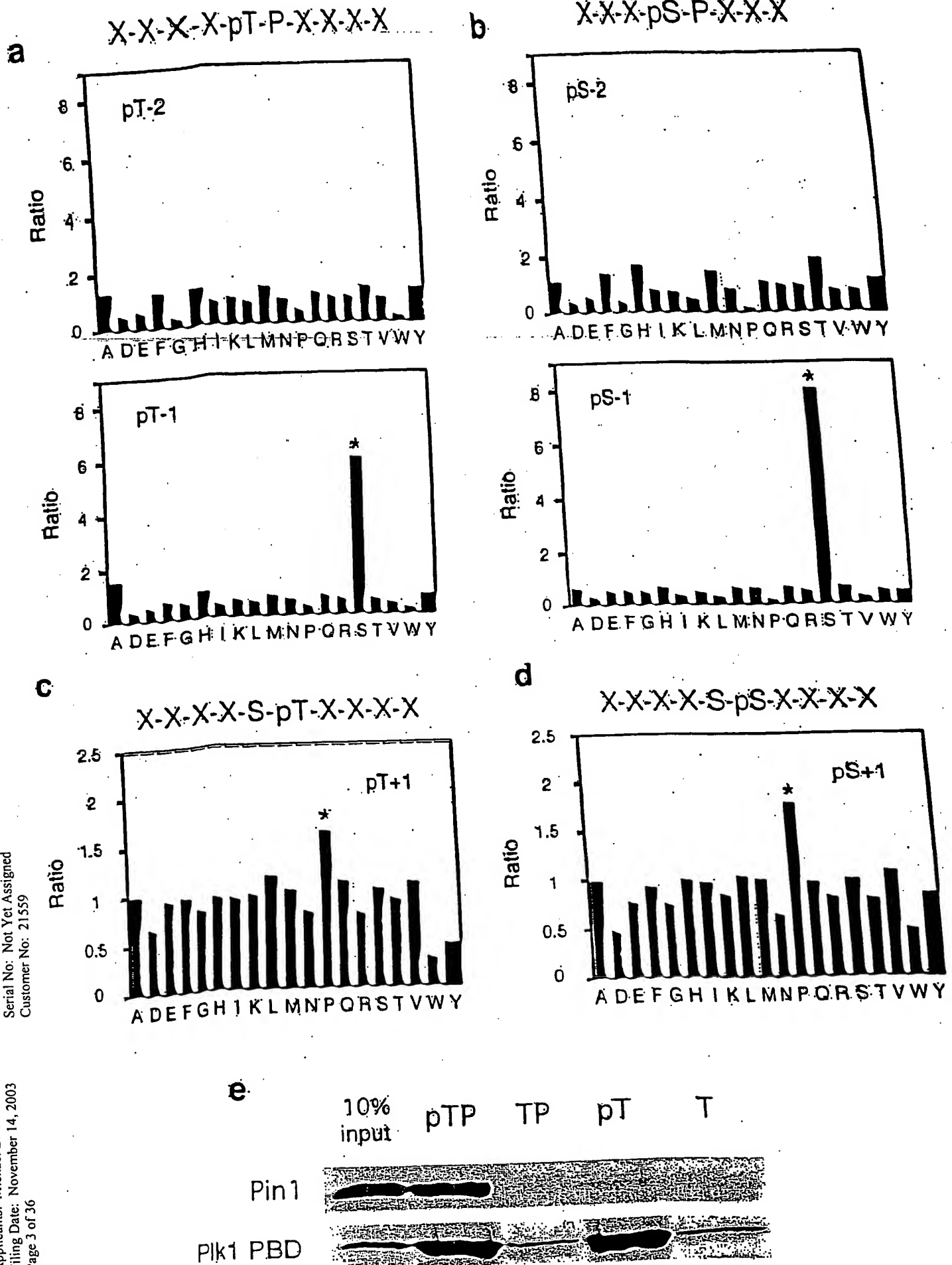
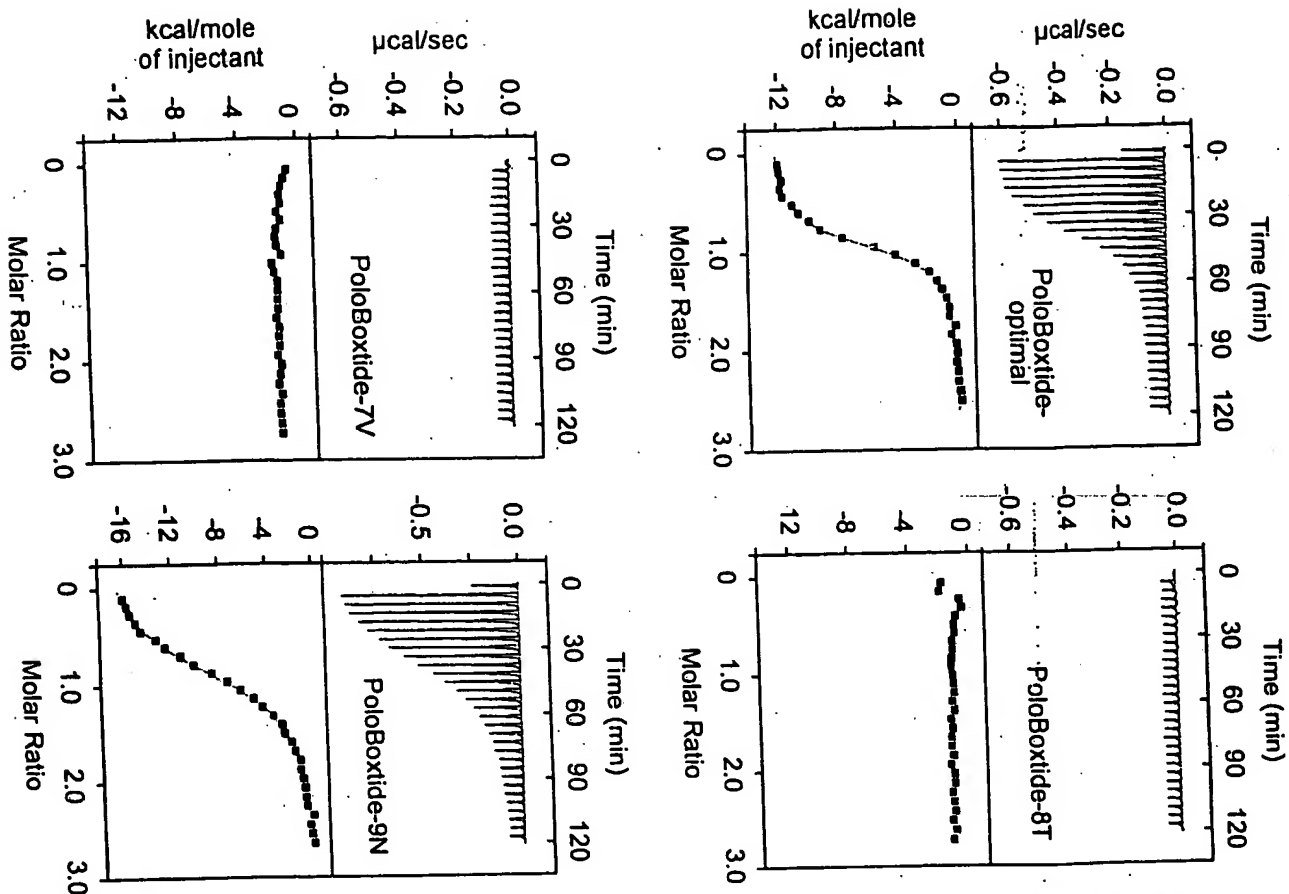


Figure 3





Peptide binding affinities for the Plk1 Polo Box Domain		
Peptide name	Peptide sequence	K _d
PoloBoxide-optimal	MAGPMQ-S-pT-P-LNGAKK	280 ± 27 nM
Effect of pT		
PoloBoxide-8T	MAGPMQ-S-T-P-LNGAKK	N.D.B.
PoloBoxide-8ps	MAGPMQ-S-pS-P-LNGAYKK	2.1 µM
PoloBoxide-8py	MAGPMQ-S-pY-P-LNGAYKK	N.D.B.
Effect of serine at pT-1 position		
PoloBoxide-7V	MAGPMQ-V-pT-P-LNGAKK	N.D.B.
PoloBoxide-7A	MAGPMQ-A-pT-P-LNGAYKK	N.D.B.
PoloBoxide-7G	MAGPMQ-G-pT-P-LNGAYKK	N.D.B.
PoloBoxide-7C	MAGPMQ-C-pT-P-LNGAYKK	N.D.B.
PoloBoxide-7T	MAGPMQ-T-pT-P-LNGAYKK	N.D.B.
Effect of proline at pT+1 position		
PoloBoxide-9N	MAGPMQ-S-pT-N-LNGAKK	1.5 µM

Figure 4

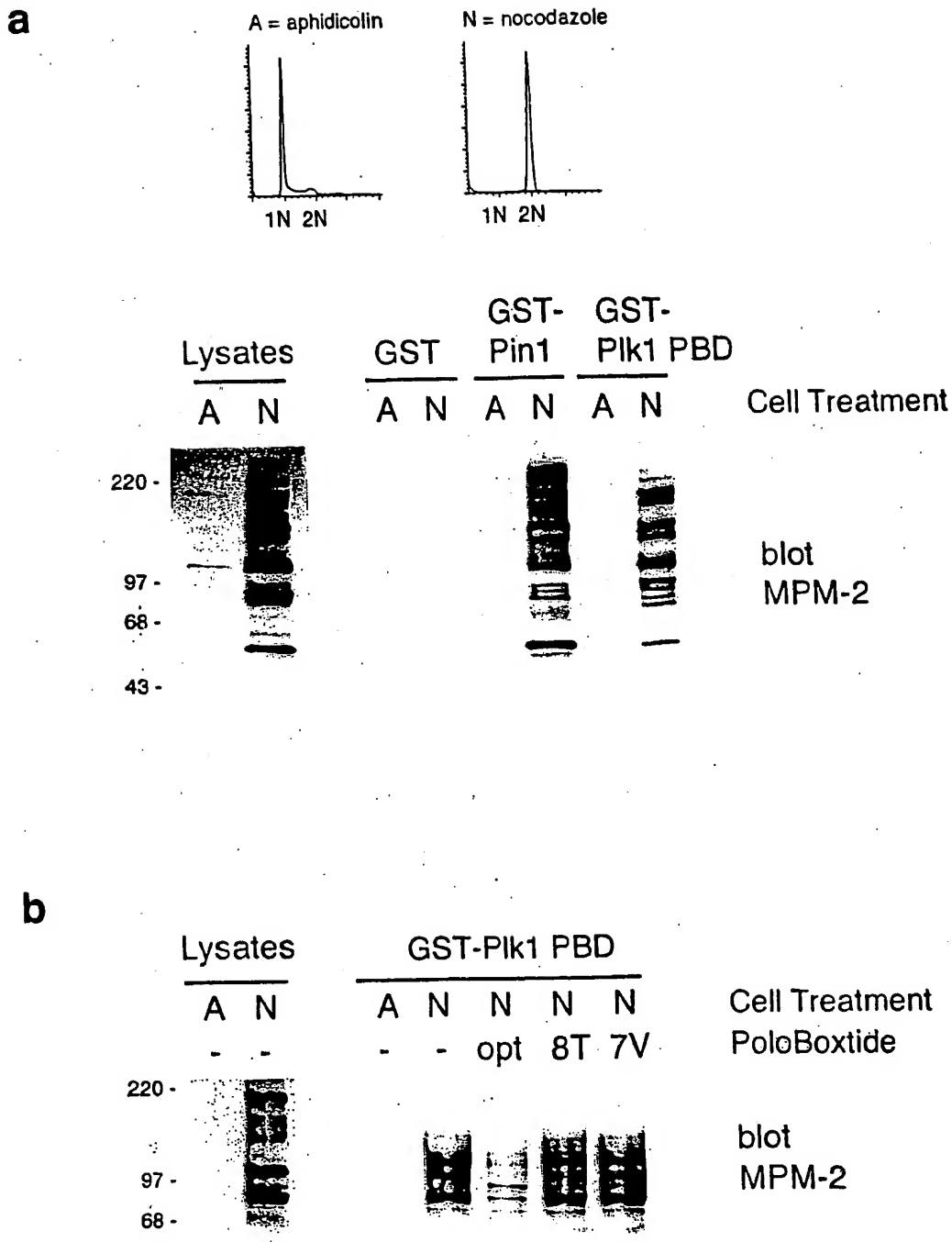


Figure 5

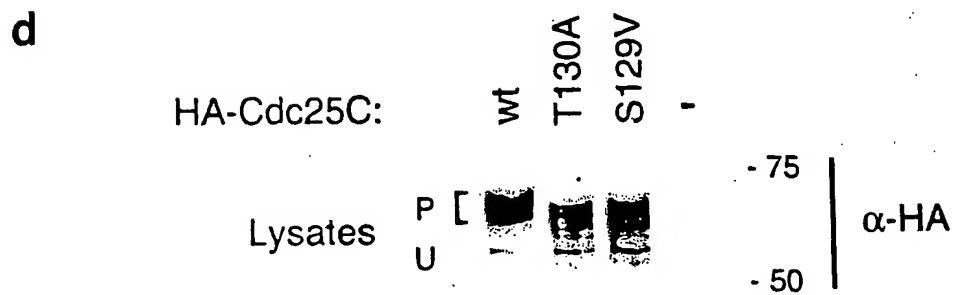
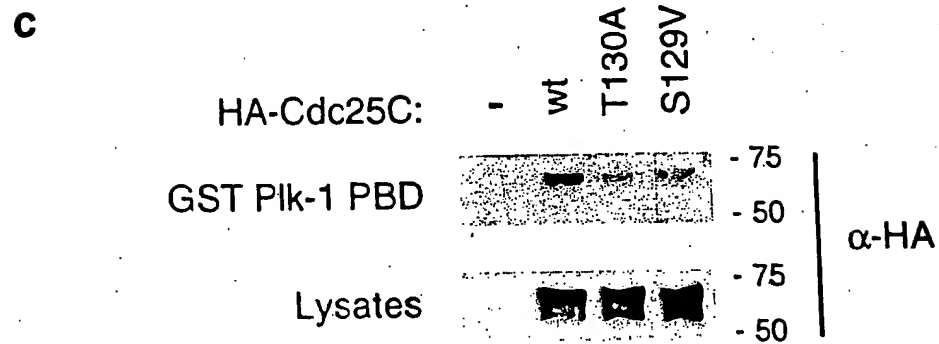
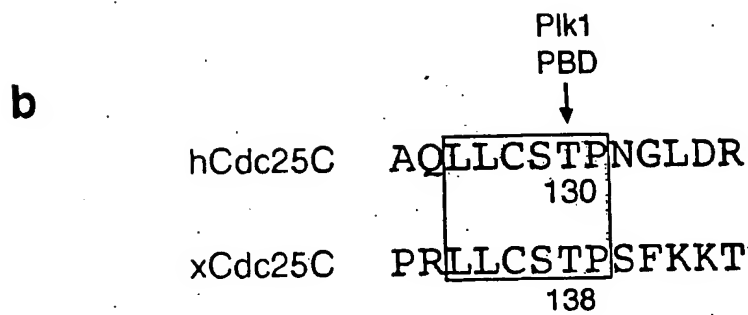
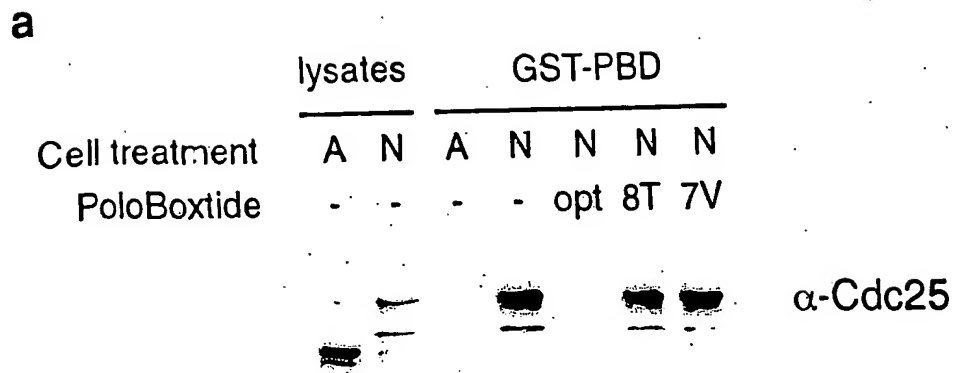


Figure 6

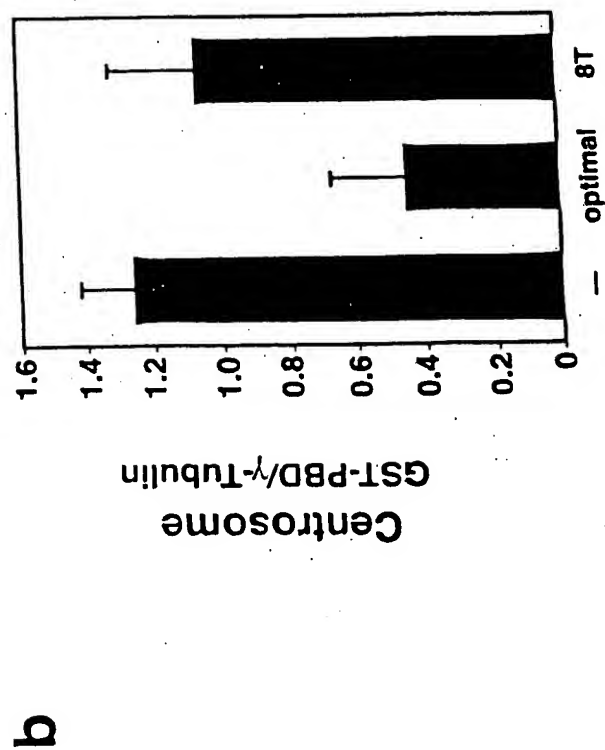
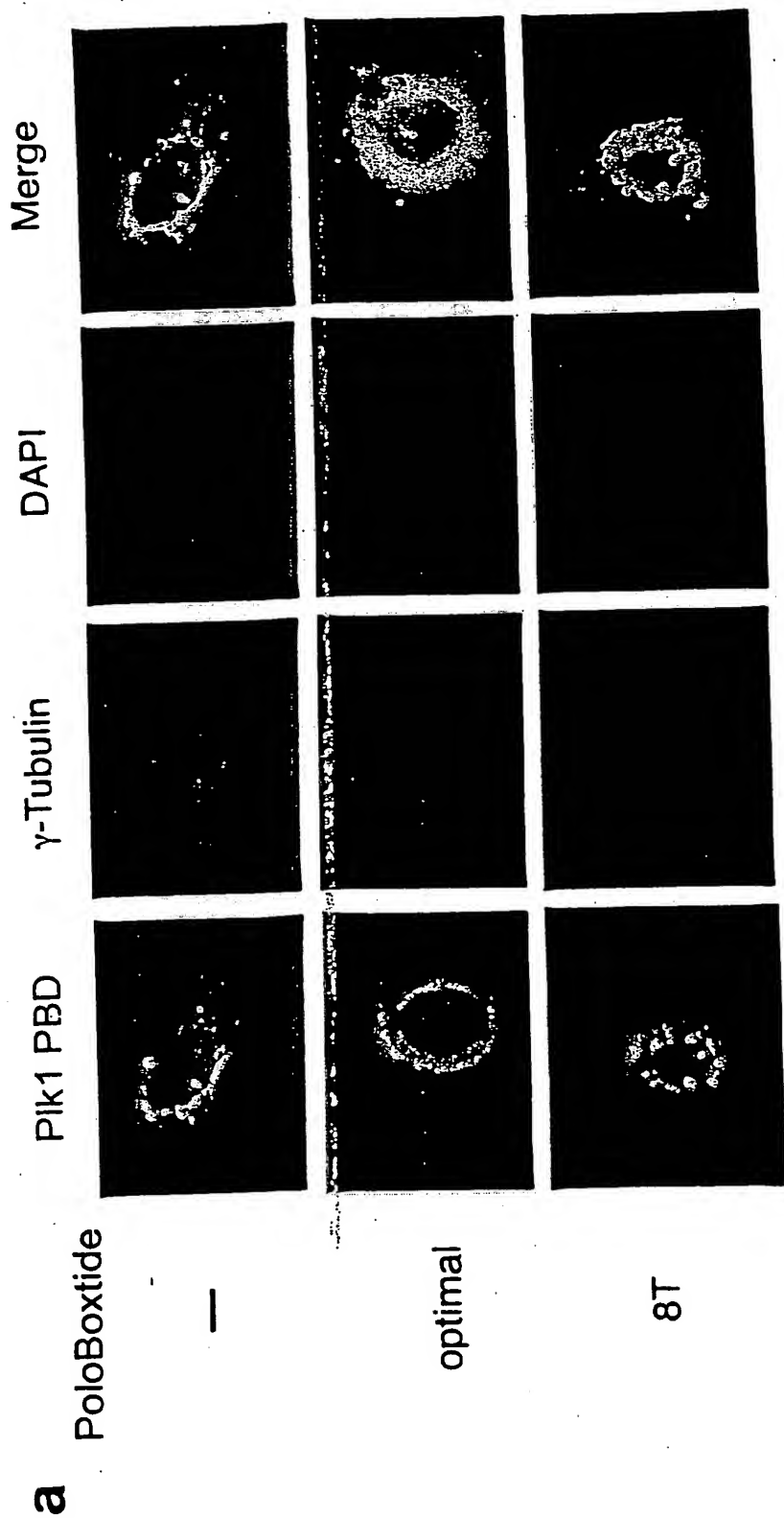


Figure 7

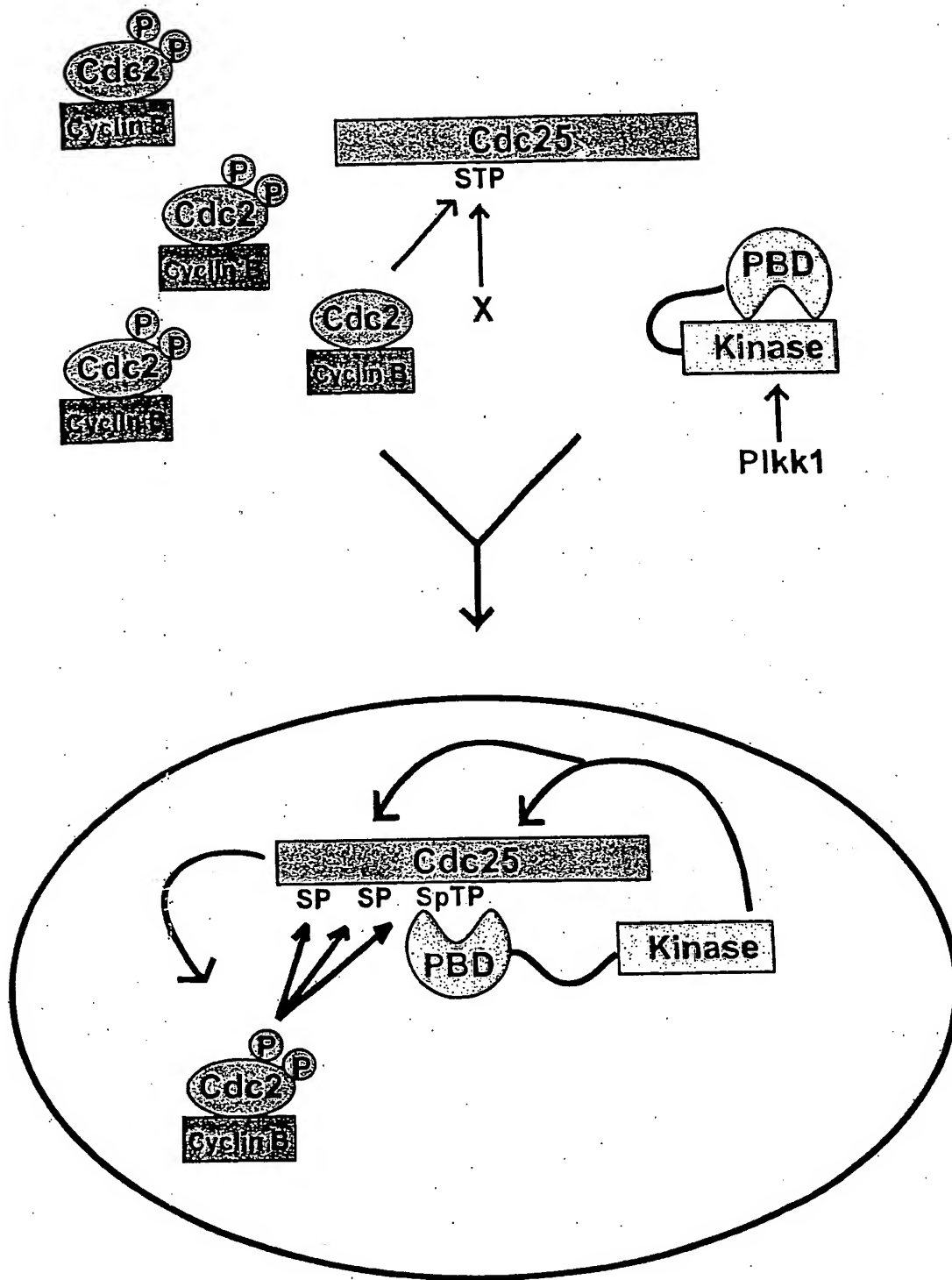


Figure 8

A

pT-1 serine analogues abolish PIK1 PBD: peptide binding in solution

Peptide name	Peptide sequence	K_d
PoloBoxide-optimal	MAGPMQ-S-pT-P-LNGAKK	280 ± 27 nM
PoloBoxide-7A	MAGPMQ-A-pT-P-LNGAYKK	N.D.B.
PoloBoxide-7G	MAGPMQ-G-pT-P-LNGAYKK	N.D.B.
PoloBoxide-7C	MAGPMQ-C-pT-P-LNGAYKK	N.D.B.
PoloBoxide-7T	MAGPMQ-T-pT-P-LNGAYKK	N.D.B.

B

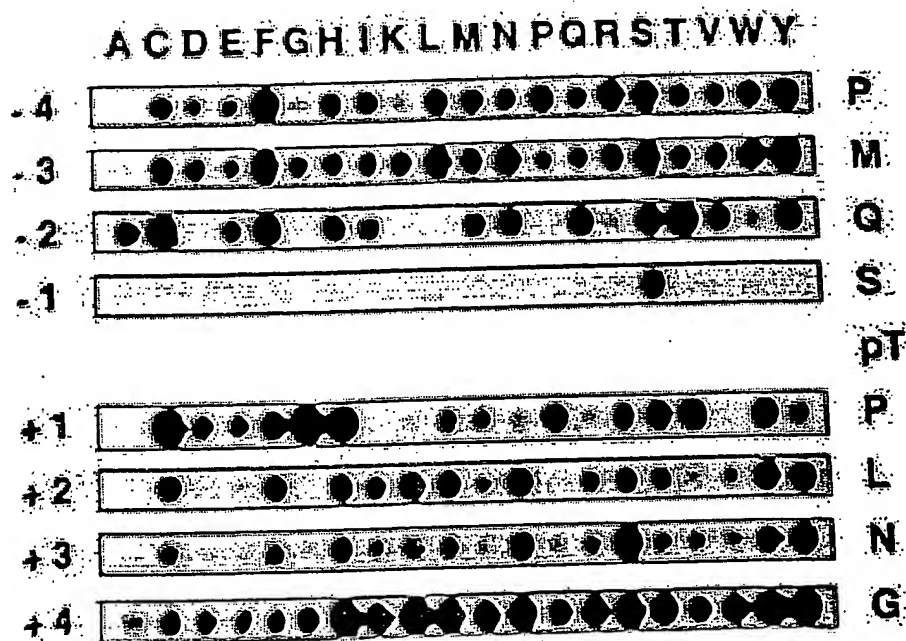


Figure 9

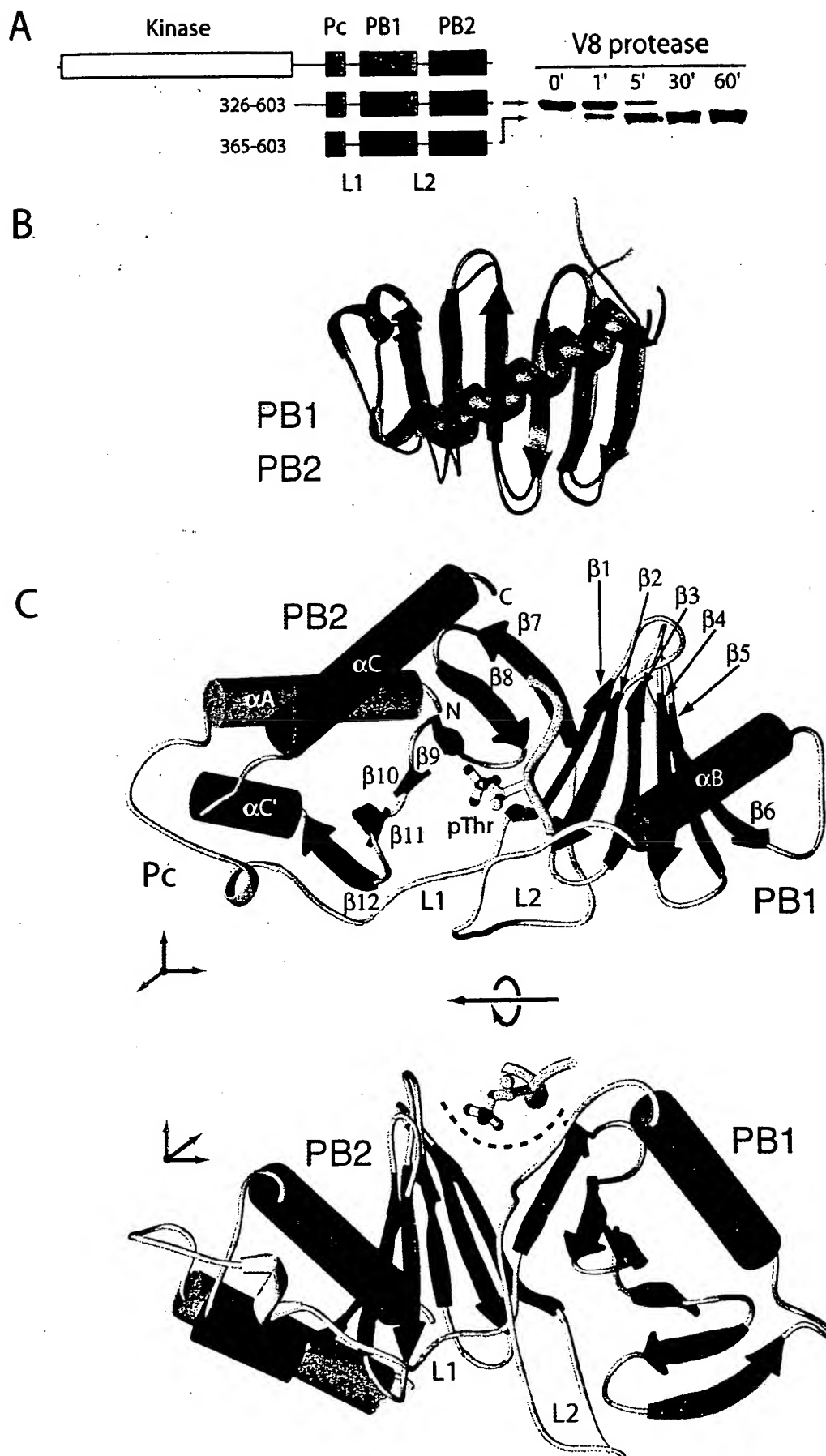
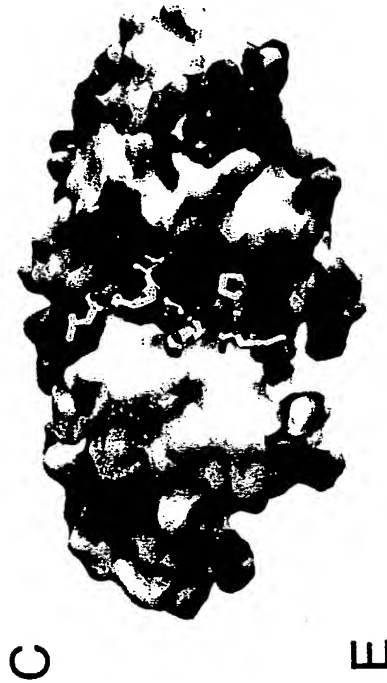
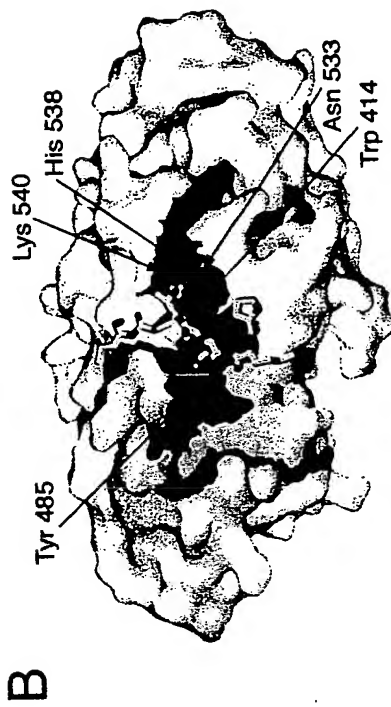


Figure 10



E

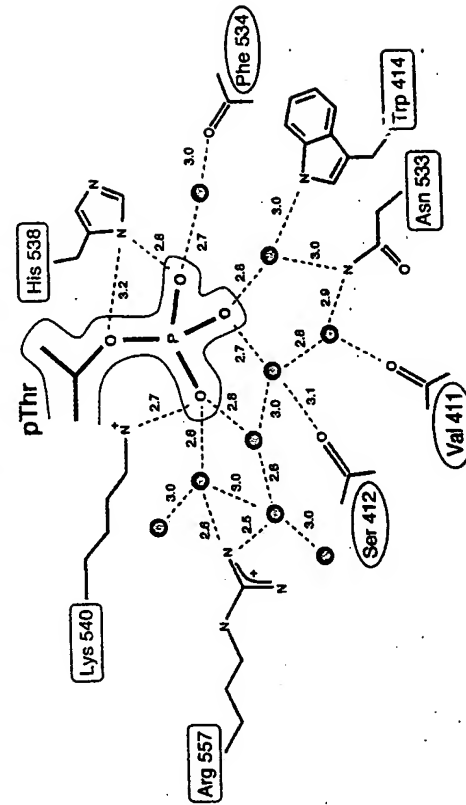
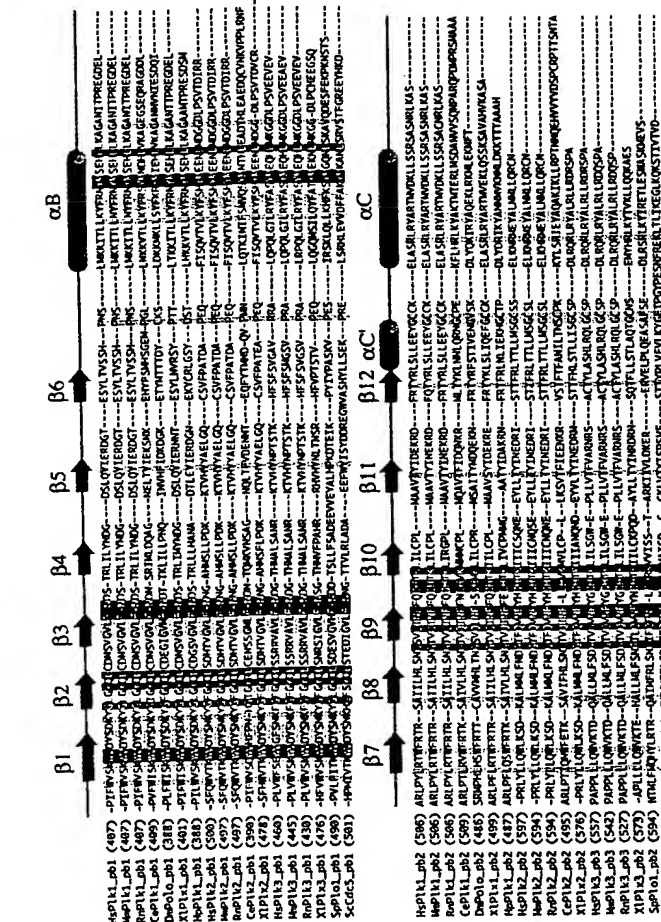
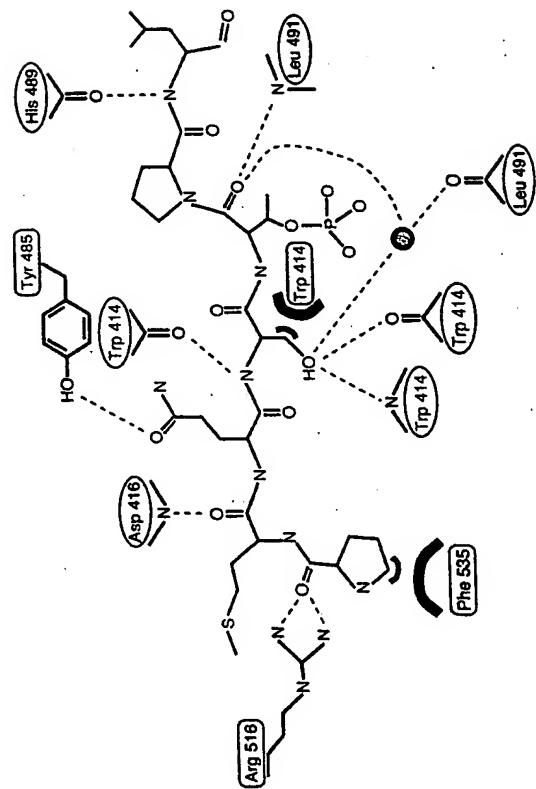


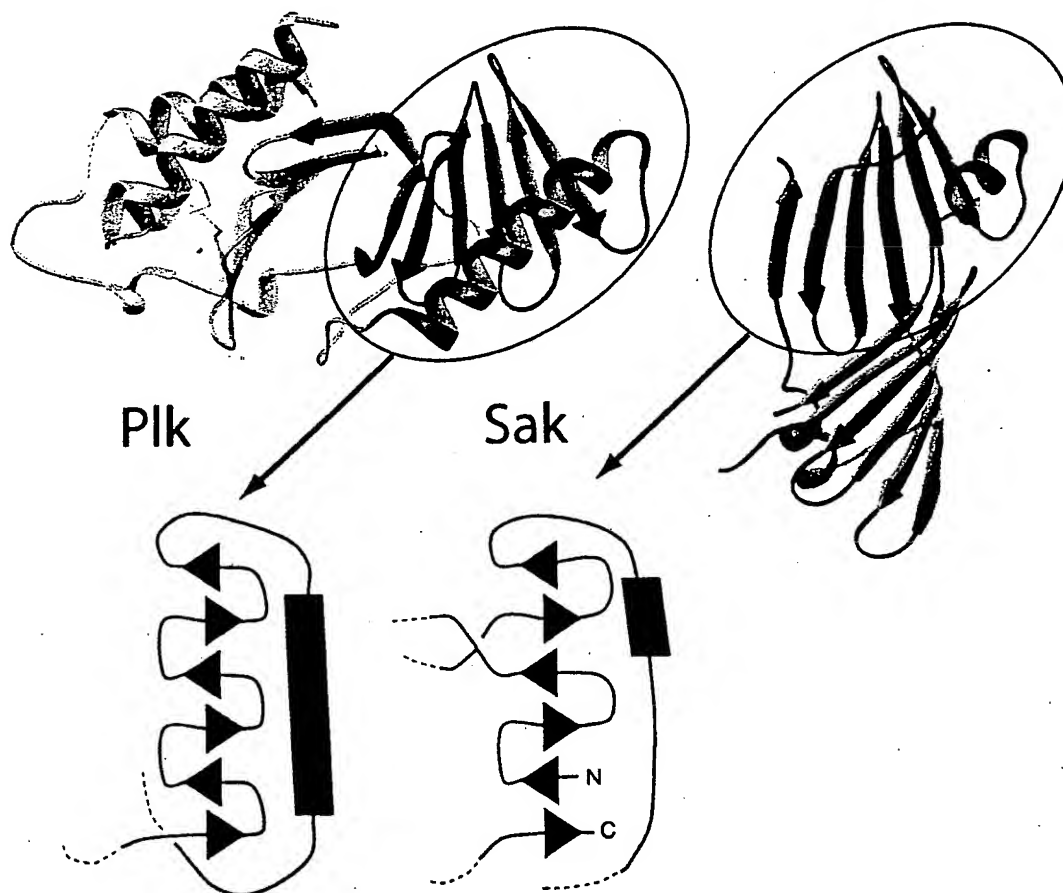
Figure 11



D



A



B

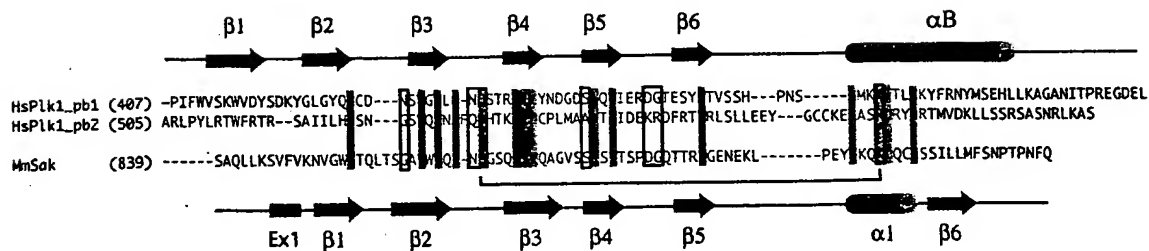


Figure 12

C



D



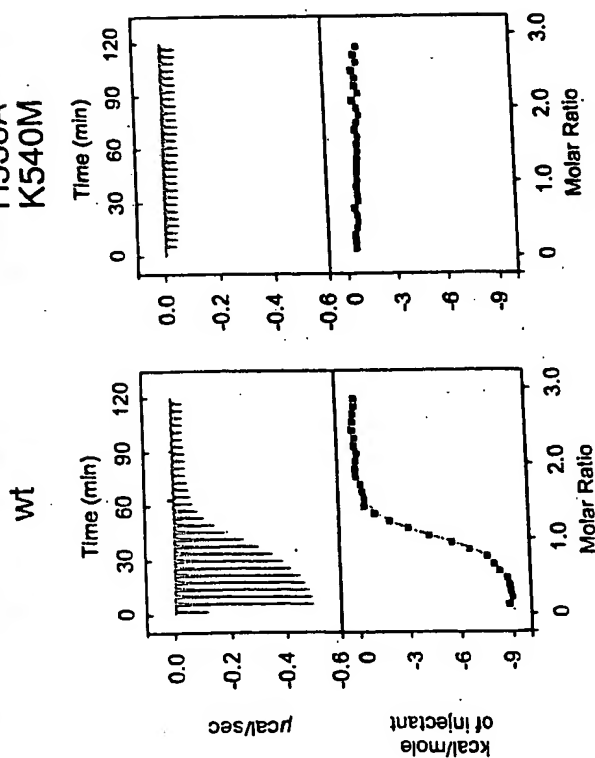
Figure 13

A



B

Pik1 326-603



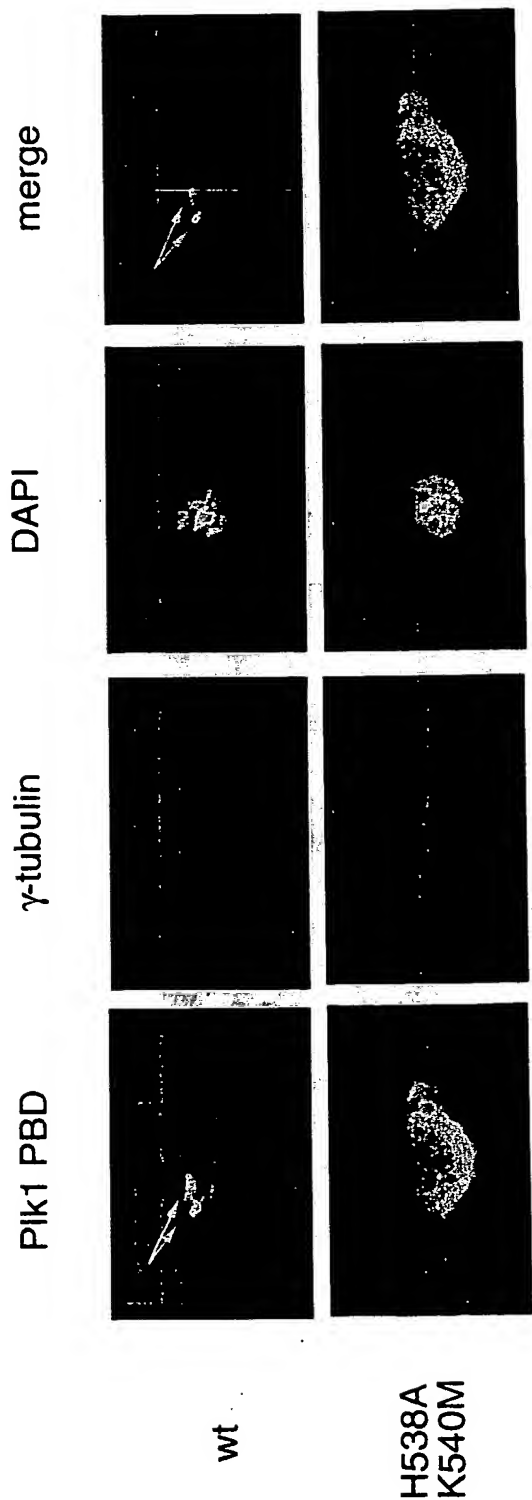


Figure 14

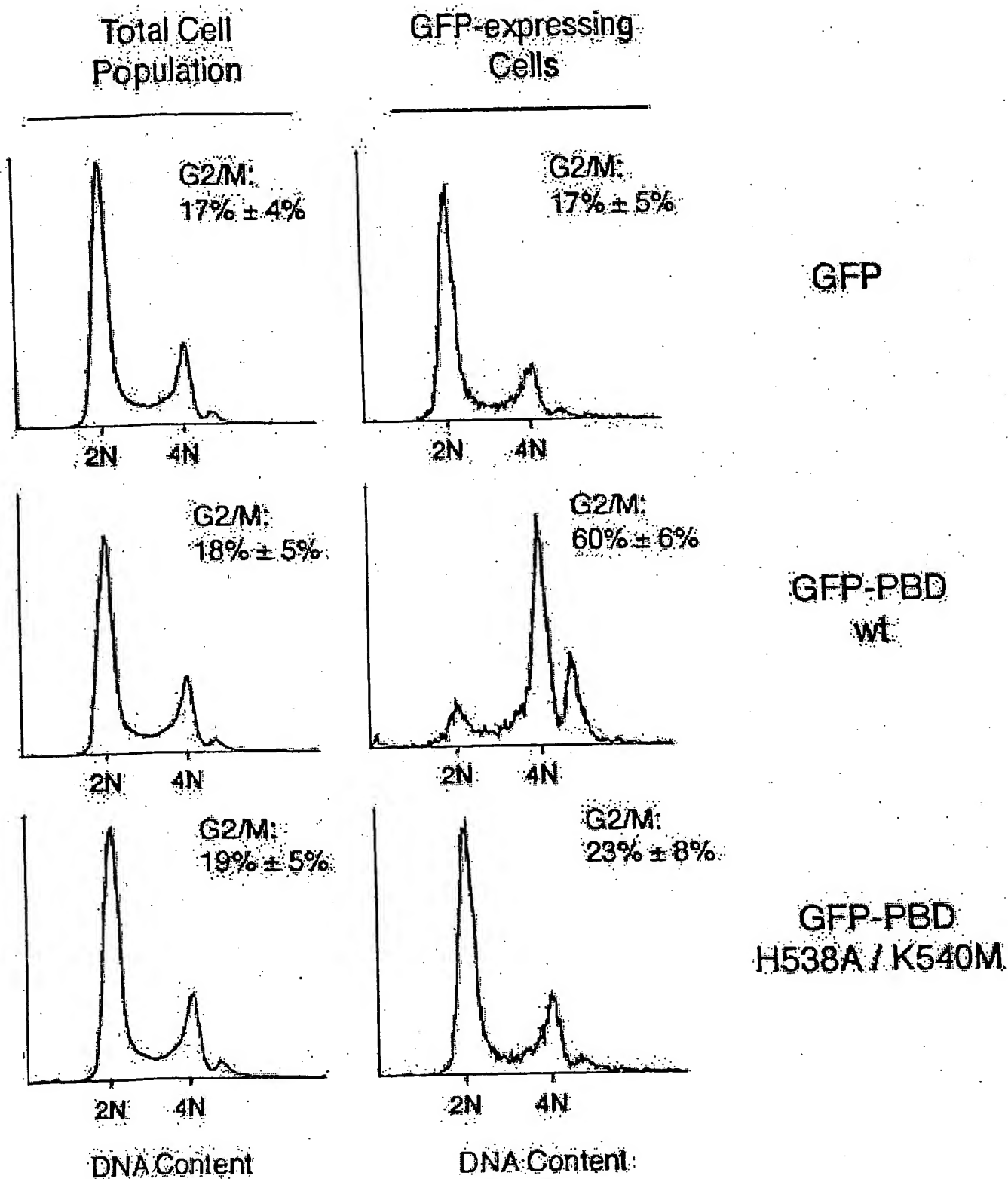
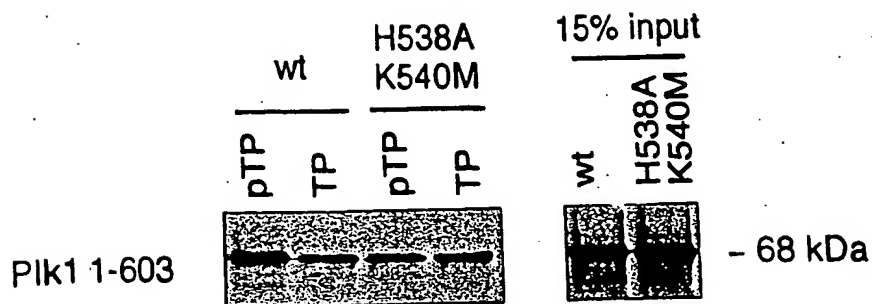
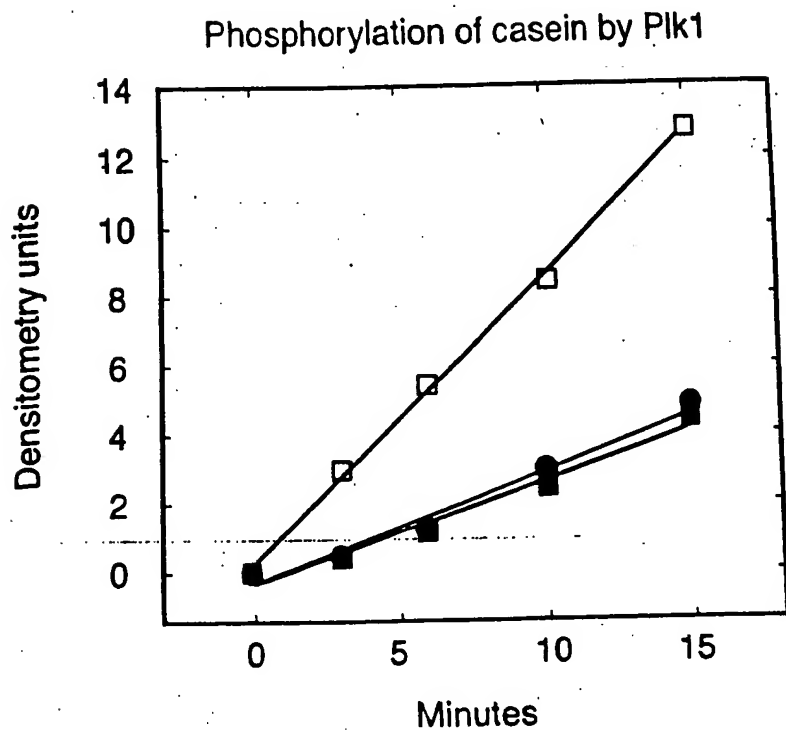


Figure 15

A



B



C

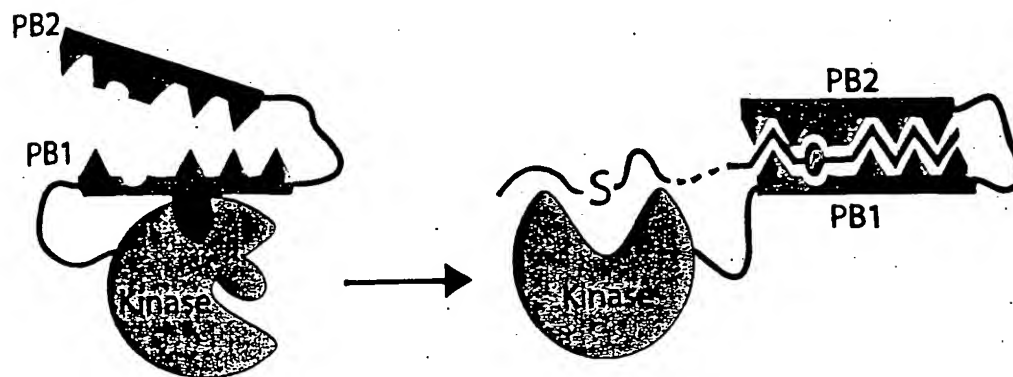
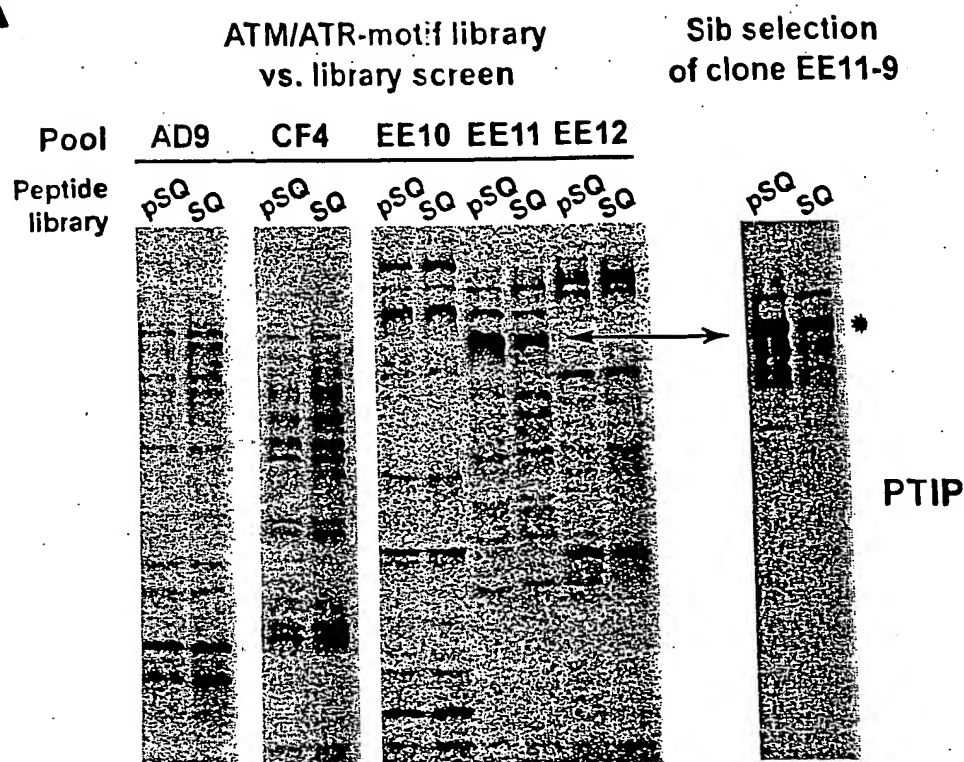


Figure 16

A



B

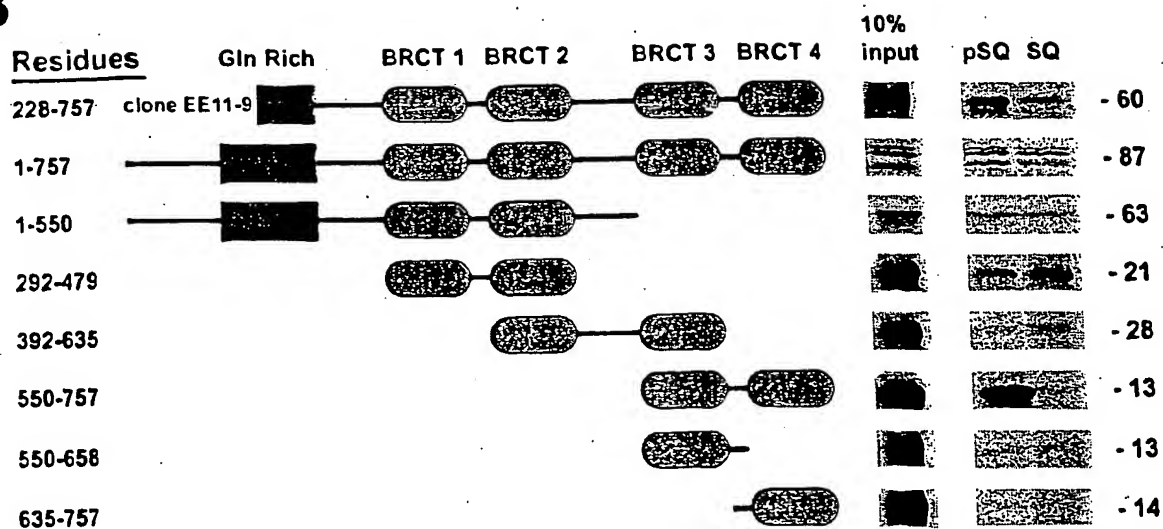


Figure 17

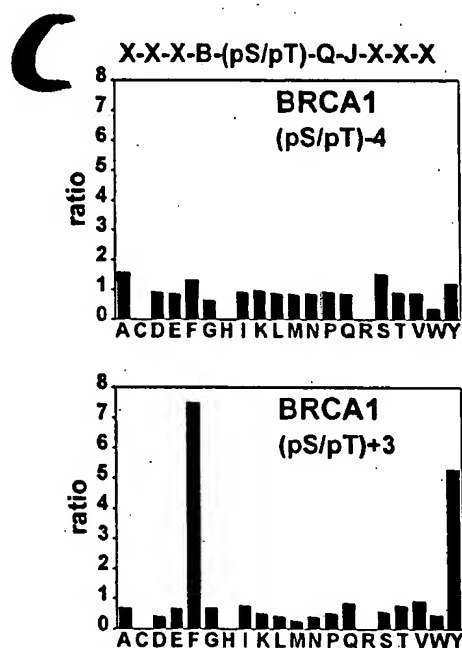
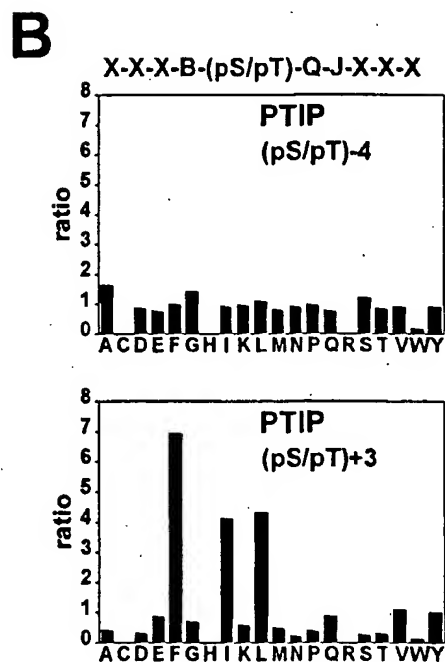
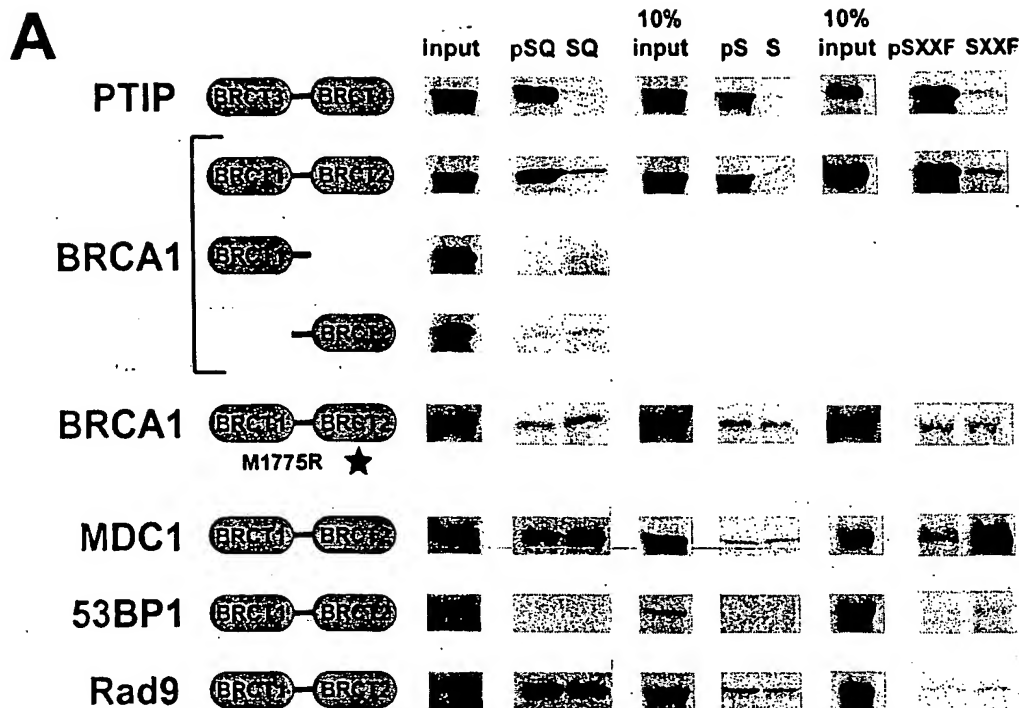
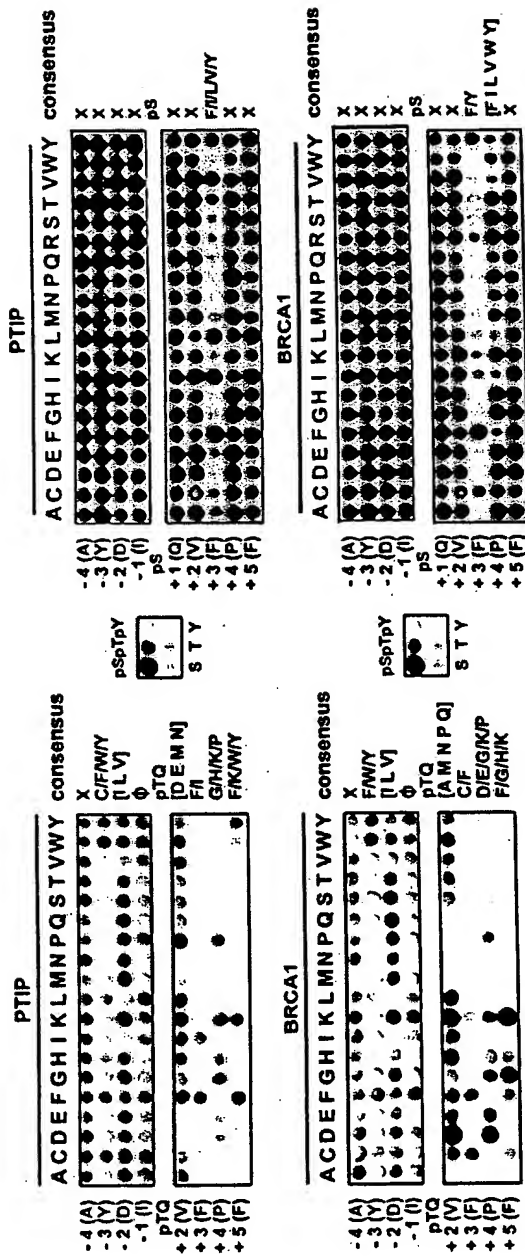


Figure 18A, 18B, 18C

18F

18D

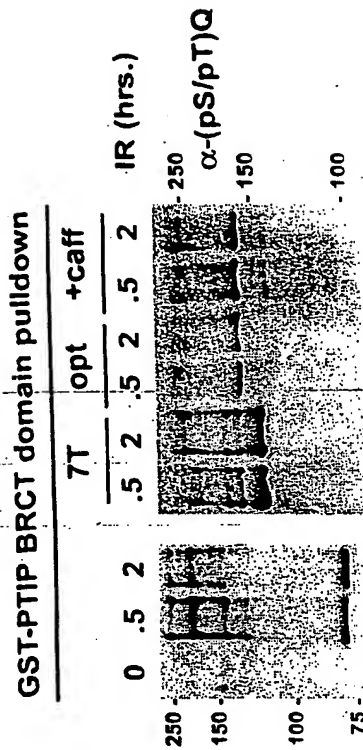


18G

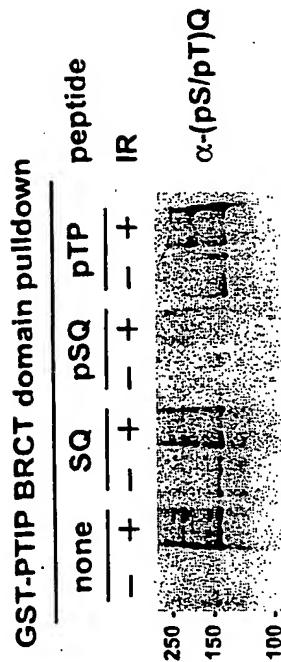
18E

Figures 18D, 18E, 18F, 18G

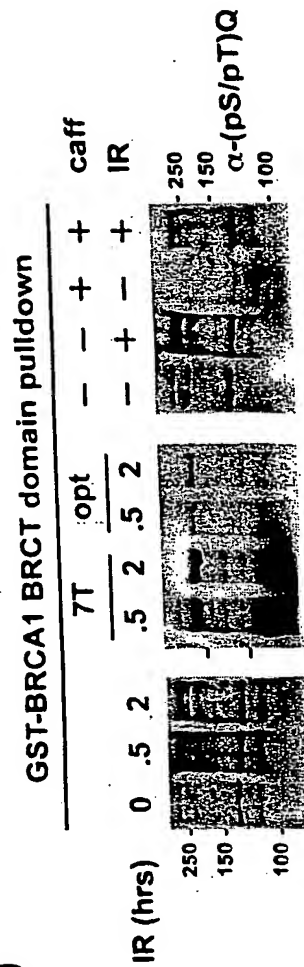
B



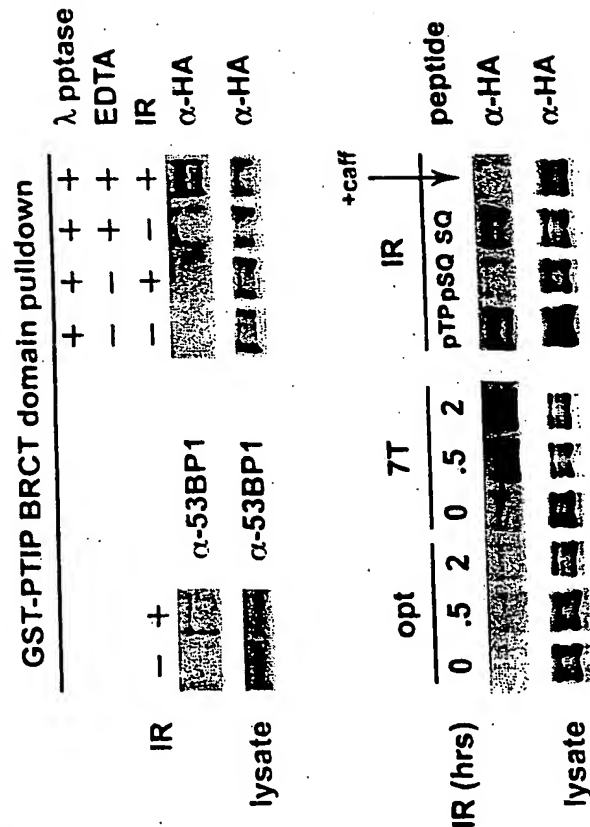
A



D



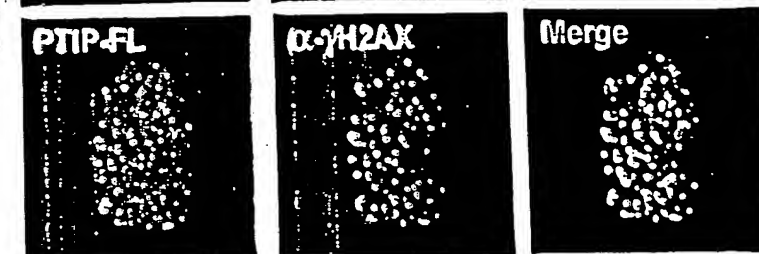
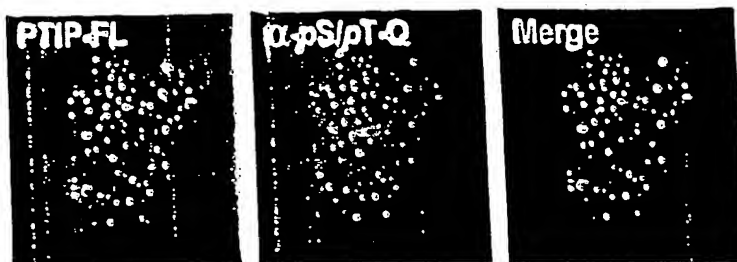
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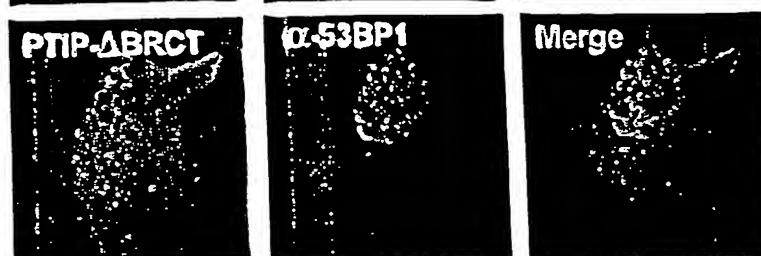
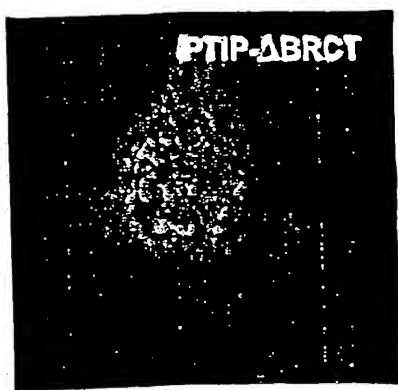
— IR

+ 10 Gy IR

A



B



C

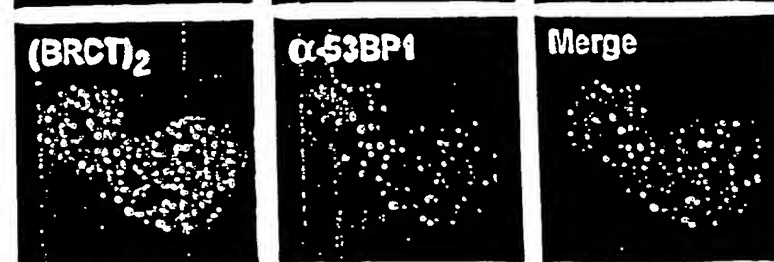
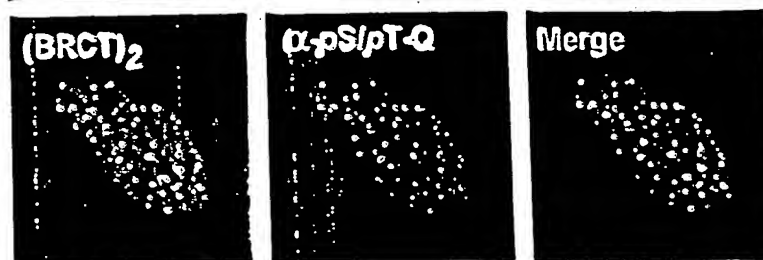
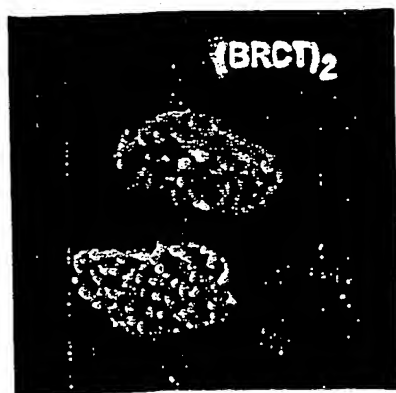


Figure '20

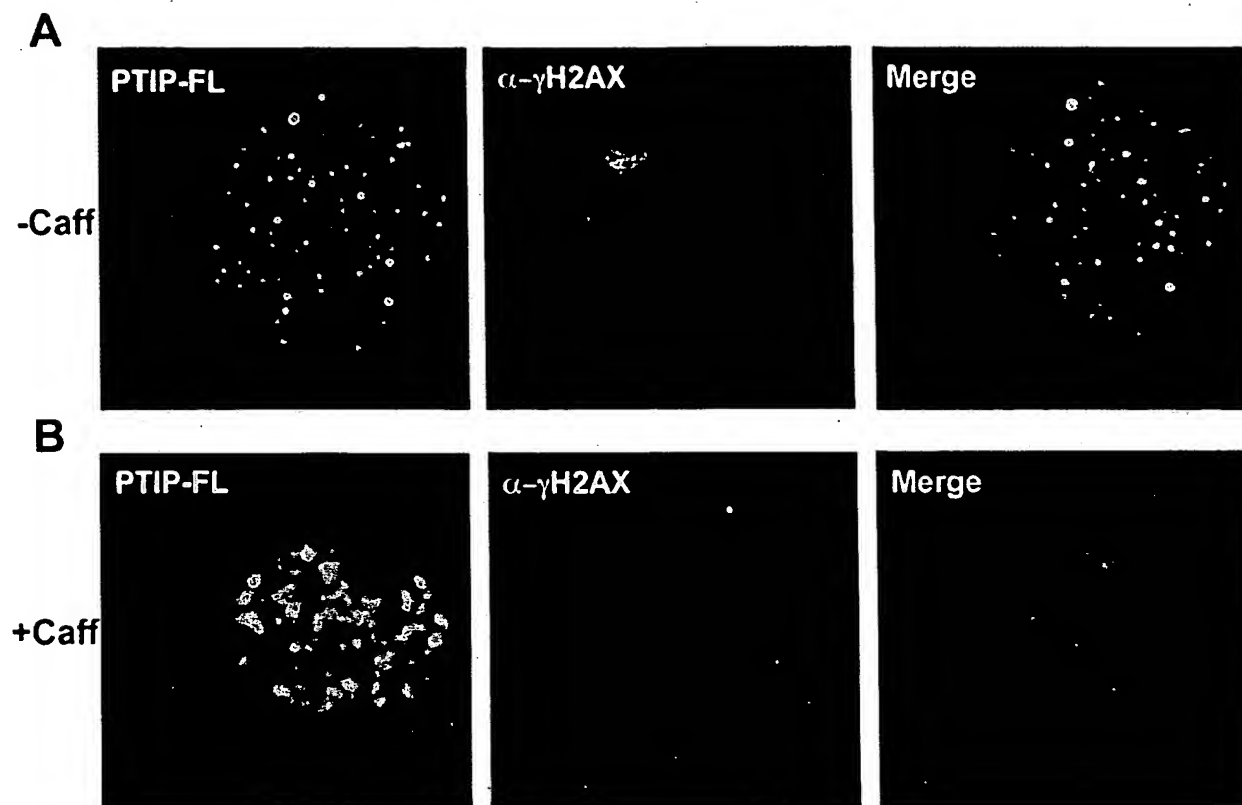


Figure 21A, 21B

Figure 22
PTIP

>gi|21707458|gb|AAH33781.1| PAX transcription activation domain interacting protein 1 like
[Homo sapiens]
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QQQFHQLQQHQLQQQQLAQLQQQHSLQQQQQQQIQQQQLQRMHQQQQQQQMQSQTAPH
LSQTSQALQHQVPPQQPPQQQQQQQPPSPQQHQLFGHDPAVEIPEEGFLLGCVFAIADYPEQ
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KKMVPPhRALHFPVAFPPGGKPCSQHIISVTGFVDSRDDLKLMAYLAGAKYTGylCRSNTVLIC
KEPTGLKYEKAKEWRIpcvNAQWLGDILLGNFEALRQIQYSRYTAFSLQDPFAPTQHlVLNLLDA
WRVPLKVSAELLMSIRLPPKLKQNEVANVQpSSKRARIEDVPPPTKLTPELTPFVLTGFEPVQ
VQQYIKKLYILGGEVAESAQKCTHliASKVTRTVKFLTAISVVKHIVTPEWLEECFRcQKFIDEQNYI
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MEHKQNSSLSEIILISCENDLHLcreYFARGIDVHNAEFVLTGVLTQTLDYEsYKFN

Title: PRODUCTS AND PROCESSES FOR MODULATING PEPTIDE-PEPTIDE BINDING DOMAIN INTERACTIONS

Applicants: Michael B. Yaffe et al.

Filing Date: November 14, 2003

Serial No: Not Yet Assigned

Customer No: 21559

[illegible]

Figure 24
Brca1

>gi|30039659|gb|AAP12647.1| breast cancer 1, early onset [Homo sapiens]
MDLSALRVEEVQNVINAMQKILECPICLELIKEPVSTKCDHIFCKFCMLKLLNQKKGPSQCPLCKN
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RAKRLLQSEPENPSLQETSLSVQLSNLGTVRTLRTKQRIQPQKTSVYIELGSDSSEDTVNKATYC
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SYLPRQDLEGTPYLESGISLFSDDPESDPSRAPESARVGNIPSSSALKVPQLKVAESAQSPA
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Figure 25

>(gi|30039658:2223-2302, 10541-10594, 19804-19881, 21381-21469, 22076-22215, 26456-26561, 29046-29091, 30413-30489, 31479-34904, 35307-35395, 43771-43942, 49733-49859, 51830-52020, 55137-55447, 58682-58769, 62426-62503, 63004-63044, 69242-69325, 75264-75318, 77187-77260, 78678-78738, 80580-80704) Homo sapiens breast cancer 1, early onset (BRCA1) gene, complete cds

ATGGATTTATCTGCTCTTCGCGTTGAAGAAGTACAAAATGTCATTAATGCTATGCAGAAAATC
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GTACAGTGAGCACAAATTAGCCGTAATAACATTAGAGAAAATGTTTTTAAAGAAGCCAGCTCAA

GCAATATTAATGAAGTAGGTTCCAGTACTAATGAAGTGGGCTCCAGTATTAATGAAATAGGTT
CCAGTGATGAAAACATTCAAGCAGAACTAGGTAGAAACAGAGGGCCAAAATTGAATGCTATG
CTTAGATTAGGGGTTTTGCAACCTGAGGTCTATAAACAAAGTCTTCCTGGAAGTAATTGTAAG
CATCCTGAAATAAAAAAGCAAGAATATGAAGAAGTAGTTCAAGTGTTAATACAGATTTCTCT
CCATATCTGATTTAGATAACTTAGAACAGCCTATGGGAAGTAGTCATGCATCTCAGGTTTGT
TCTGAGACACCTGATGACCTGTTAGATGATGGTGAATAAAGGAAGATACTAGTTTTGCTGA
AAATGACATTAAGGAAAGTTCTGCTGTTTTTAGCAAAAGCGTCCAGAAAGGAGAGCTTAGCA
GGAGTCCTAGCCCTTTACCCATACACATTTGGCTCAGGGTTACCGAAGAGGGGCCAAGAA
ATTAGAGTCCTCAGAAGAGAACTTATCTAGTGAGGATGAAGAGCTTCCCTGCTTCCAACACT
TGTTATTTGGTAAAGTAAACAATATACCTTCTCAGTCTACTAGGCATAGCACCGTTGCTACCG
AGTGTCTGTCTAAGAACACAGAGGAGAATTTATTATCATTGAAGAATAGCTTAAATGACTGCA
GTAACCAGGTAATATTGGCAAAGGCATCTCAGGAACATCACCTTAGTGAGGAAACAAAATGT
TCTGCTAGCTTGTTTTCTTACAGTGACGTGAATTGGAAGACTTGACTGCAAATACAAACACC
CAGGATCCTTTCTTGATTGGTTCTTCCAAACAAATGAGGCATCAGTCTGAAAGGCCAGGGAGT
TGGTCTGAGTGACAAGGAATTGGTTTCAGATGATGAAGAAAGAGGAACGGGCTTGAAGAA
AATAATCAAGAAGAGCAAAGCATGGATTCAAACCTTAGGTGAAGCAGCATCTGGGTGTGAGAG
TGAACAAGCGTCTCTGAAGACTGCTCAGGGCTATCCTCTCAGAGTGACATTTAACCCTC
AGCAGAGGGATACCATGCAACATAACCTGATAAAGCTCCAGCAGGAAATGGCTGAACTAGA
AGCTGTGTTAGAACAGCATGGGAGCCAGCCTTCTAACAGCTACCCTTCCATCATAAGTGACT
CTTCTGCCCTTGAGGACCTGCGAAATCCAGAACAAAGCACATCAGAAAAAGCAGTATTAAT
TCACAGAAAAGTAGTGAATACCCTATAAGCCAGAATCCAGAAGGCCTTTCTGCTGACAAGTT
TGAGGTGTCTGCAGATAGTTCTACCAGTAAAAATAAAGAACCAGGAGTGGAAGGTCATCCC
CTTCTAAATGCCCATCATTAGATGATAGGTGGTACATGCACAGTTGCTCTGGGAGTCTTCAG
AATAGAACTACCCATCTCAAGAGGAGCTCATTAAAGTTGTTGATGTGGAGGAGCAACAGCT
GGAAGAGTCTGGGCCACACGATTTGACGGAAACATCTTACTTGCCAAGGCAAGATCTAGAG
GGAACCCCTTACCTGGAATCTGGAATCAGCCTCTTCTCTGATGACCCTGAATCTGATCCTTC
TGAAGACAGAGCCCCAGAGTCAGCTCGTGTTGGCAACATACCATCTTCAACCTCTGCATTGA
AAGTTCCCCAATTGAAAGTTGCAGAATCTGCCCAGAGTCCAGCTGCTGCTCATACTACTGAT
ACTGCTGGGTATAATGCAATGGAAGAAAGTGTGAGCAGGGAGAAGCCAGAATTGACAGCTT
CAACAGAAAGGGTCAACAAAAGAATGTCCATGGTGGTGTCTGGCCTGACCCCAAGAAGATTT
ATGCTCGTGTAAGTTTGGCAGAAAACACCACATCACTTTAACTAATCTAATTACTGAAGAG
ACTACTCATGTTGTTATGAAAACAGATGCTGAGTTTGTGTGTGAACGGACACTGAAATATTTT
CTAGGAATTGCGGGAGGAAAATGGGTAGTTAGCTATTTCTGGGTGACCCAGTCTATTAAAGA
AAGAAAAATGCTGAATGAGCATGATTTTGAAGTCAGAGGAGATGTGGTCAATGGAAGAAACC
ACCAAGGTCCAAAGCGAGCAAGAGAATCCCAGGACAGAAAGATCTTCAGGGGGGCTAGAAAT
CTGTTGCTATGGGCCCTTACCAACATGCCACAGATCAACTGGAATGGATGGTACAGCTGT
GTGGTGCTTCTGTGGTGAAGGAGCTTTCATCATTACCCCTTGGCACAGGTGTCCACCCAATT
GTGGTTGTGCAGCCAGATGCCTGGACAGAGGACAATGGCTTCCATGCAATTGGGCAGATGT
GTGAGGCACCTGTGGTGACCCGAGAGTGGGTGTTGGACAGTGTAGCACTCTACCAGTGCCA
GGAGCTGGACACCTACCTGATACCCAGATCCCCACAGCCACTACTGA

Figure 25 (continued)

Figure 26
MDC1

>gi|7661966|ref|NP_055456.1| MDC1 mediator of DNA damage checkpoint 1; nuclear factor with BRCT domains protein 1; Em:AB023051.5 [Homo sapiens]
MEDTQAIDWDVEEEEETEQQSSESLRCNVEPVGRLHIFSGAHGPEKDFPLHLGKNVVGRKIPDCS
VALPFPSISKQHAIEILAWDKAPILRDCGSLNGTQILRPPKVLSPGVSHRLRDQELILFADLLCQY
HRLDVSLPFVSRGPLTVEETPRVQGETQPQRLLAEDSEEEVDFLSERRMVKKSRTTSSSVIVPE
SDEEGHSPVLGGLGPPFAFNLSDDTVEEGQQPATEEASSAARRGATVEAKQSEAEVVTEIQLE
KDQPLVKERDNDTKVKRGAGNGVVPAGVILERSQPPGEDSDTDVDDDSRPPGRPAEVHLERAQ
PFGFIDSDTDAEEERIPATPVVIPMKKRKIFHGVGTRGPGAPGLAHLQESQAGSDTDVEEGKAPQ
AVPLEKSQASMVINSDDTDEEEVSAALTLAHLKESQPAIWNRAEEDMPQRVVLLQRSQTTER
DSDTDVEEEELPVENREAVLKDHTKIRALVRAHSEKDQPPFGDSDDSV EADKSSPGIHLERSQA
STTV DINTQVEKEVPPGSAIMHIKKHQVSVEGTNQTQDVKAVGGPAKLLV/SLEEAWPLHGDCET
DAEEGTSLTASVVADVRSKSQLPAEGDAGAEWAAAVLKQERAHEVGAQGGPPVAQVEQDLPISR
ENLTDLVVDTDTLGESTQPQREGAQVPTGREREQHVGGTKDSEDNYGDESDLDLQATQCFLN
QGLEAVQSMEDPTQAFMLTPPQELGPSHCSFQTTGTLDEPWEVLATQPFCLRESEDSETQPF
DTHLEAYGPCLSPRAIPGDQHPESPVHTEPMGIQGRGRQTVDKVMGIPKETAERVGP PERGPLE
RETEKLLPERQTDVTGEEELTKGKQDREQKQLLARDTQRQESDKNGESASPERDRESLKVEIET
SEEIQEKQVQKQTLPSKA FEREVERPVANRECDPAELEEKVPKVILERDTQRGEPEGGSQDQKG
QASSPTPEPGVGAGDLPGPTSAPVPSGSQSGGRGSPVSPRRHQKGLLNCKMPPAEKASRIRAA
EKVSRGDQESPDACLPPAVPEAPAPPQKPLNSQSQKHLAPPPLLSPLLPSIKPTVRKTRQDGSQ
EAP EAPLSSELEPFHPKPKIRTRKSSRMT PFPATSA APEPH PSTSTAQPVT PKPTSQATR SRTNR
SSVKTPEPVVPTAPELQPSTSTDQPV TSEPTSQVTRGRKSRSSVKTPETVVPTALELQPSTSTD
RPVTSEPTSQATRGRKNRSSVKTPEPVVPTAPELQPSTSTDQPV TSEPTYQATRGRKNRSSVKT
PEPVVPTAPELRPSTSTD RPVT PKPTSRTTRSR TNMSSVKTPETVVPTAPELQISTSTDQPVTPK
PTSRTTRSR TNMSSVKNPESTVPIAPELPPSTSTEQPV TPEPTS RATRGRKNRSSGKTPETLVPT
APKLEPSTSTDQPV TPEPTSQATRGR TNRSSVKTPETVVPTAPELQPSTSTDQPV TPEPTSQAT
RGRTDRSSVKTPETVVPTAPELQASASTDQPV TSEPTSRTTRGRKNRSSVKTPETVVPAAP ELQ
PPTSTD RPVTPEPTS RATRGR TNRSSVKTPE SIVPIAPELQPSTSRNQLVTPEPTS RATRCRTNR
SSVKTPEPVVPTAPEPHPTTSTDQPVTPKLT SRATRRKTNRSSVKT PKPVEPAASDLEPFTPTDQ
SVTPEAIAQGGQSKTLRSSTVRAMPVPTTPEFQSPVTTDQPI SPEPITQPSCIKRQRAAGNPGSL
AAPIDHKPCSAPLEPKSQASRNQRWGAVRAAESLTAIPEPASQ LLETPIHASQIQKVEPAGRSR
FTP ELQPKASQSRKRS LATMDSPPHQKQPQRGEVSQKTVIIKEEEDTAEKPGKEEDVVTPKPG
KRKRDQAE EEPNRIPSRSLRR TKLNQESTAPKVLFTGVVDARGERAVLALGGS LAGSAAEASHL
VTDRI RRTVKFLCALGRGIPILSLDWLHQSRKAGFFLPDEYVVDPEQEKNFGFSLQDALSRAR
ERRLLEGYEIYVTPGVQPPPPQMGEIISCCGGTYLP SMPRSYKPQRVVITCPQDFPHCSIPLRVG
LPLLSPEFLLTGVLKQEAKPEAFVLSPLEMSST

Figure 27

>gi|7661965:14-6283 Homo sapiens mediator of DNA damage checkpoint 1 (MDC1), mRNA
ATGGAGGACACCCAGGCTATTGACTGGGATGTTGAAGAAGAGGAGGAGACAGAGCAATCCA
GTGAATCCTTGAGGTGTAACGTGGAGCCAGTAGGGCGGCTACATATCTTTAGTGGTGCCCA
TGGACCAGAAAAAGATTTCCTACTACACCTCGGGAAGAATGTGGTAGGCCGAATGCCTGAC
TGCTCTGTGGCCCTGCCCTTTCCATCTATCTCCAAACAACATCAGAGATTGAAATCTTAGC
CTGGGACAAGGCACCTATCCTCCGAGACTGTGGGAGCCTTAATGGTACTCAAATCCTGAGA
CCTCCTAAGGTTTTGAGCCCTGGGGTGAGTCACCGTCTGAGGGACCAGGAATTGATTCTCTT
TGCTGACTTGCTCTGCCAGTACCATCGCCTGGATGTCTCTCTGCCCTTTGTCTCCCGGGGC
CCTCTGACAGTAGAAGAGACACCCAGAGTACAGGGAGAACTCAACCCCAGAGGCTTCTGT
TGGCTGAGGACTCGGAGGAGGAAGTAGATTTTCTTTCTGAAAGGCGTATGGTAAAAAATCA
AGGACCACATCTTCTCTGTGATAGTTCCAGAGAGTGATGAAGAGGGGCATTCCCCGGTCC
TGGGCGGCCTTGGGCCGCTTTTGCCTTCAATTTGAACAGTGACACAGATGTGGAAGAAGG
TCAGCAACCAGCCACAGAGGAGGCCTCCTCAGCTGCCAGAAGAGGTGCCACTGTAGAGGC
AAAGCAGTCTGAAGCTGAAGTTGTAAGTGAATCCAGCTTGAAGAGGATCAGCCTTTAGTGA
AGGAGAGGGACAATGATACAAAAGTCAAGAGGGGTGCAGGGAATGGGGTGGTTCCAGCTG
GGGTGATTCTGGAGAGGAGCCAACCTCCTGGAGAGGACAGTGACACAGATGTGGATGATGA
CAGCAGGCCTCCTGGAAGGCCAGCTGAGGTCCATTTGGAAGGGCTCAGCCTTTTGGCTTC
ATCGACAGCGACACTGATGCGGAAGAAGAGAGGATCCCAGCAACCCCAGTTGTCTTCTTA
TGAAGAAGAGGAAGATCTTCCATGGAGTAGGTACAAGGGGTCTGGAGCACCAGGCCTGG
CCCATCTGCAGGAGAGCCAGGCTGGTAGTGATACAGATGTGGAAGAAGGCAAGGCCCCAC
AGGCTGTCCCTCTGGAGAAAAGCCAAGCTTCCATGGTTATCAACAGCGATACAGATGACGA
GGAAGAAGTCTCAGCAGCGCTGACTTTGGCACATCTGAAAGAGAGCCAGCCTGCTATATGG
AACAGAGATGCAGAAGAGGACATGCCCCAACGTGTGGTCTTCTGCAGCGAAGCCAAACCA
CCTCTGAGAGAGACAGTGACACAGACGTGGAGGAGGAAGAGCTCCCAGTGGAATAAGAG
AAGCTGTCCCTCAAGGATCACACAAAGATTAGAGCCCTTGTAGAGCACATTGAGAAAAGGAC
CAACCTCCTTTTGGGGACAGTGATGACAGTGTTGAAGCAGATAAGAGCTCACCTGGGATCC
ACCTGGAGAGAAGCCAAGCCTCCACCACAGTGGACATCAACACACAAGTGGAGAAGGAAGT
CCCGCCAGGGTCAGCCATTATGCATATAAAGAAGCATCAGGTGTCTGTGGAGGGGACAAAT
CAAACAGATGTGAAAGCAGTTGGGGGACCAGCAAAGCTGCTTGTGGTATCTCTAGAGGAAG
CCTGGCCTCTGCATGGGGACTGTGAAACAGATGCAGAGGAGGGCACCTCCCTAACAGCCTC
AGTAGTTGCAGATGTAAGAAAGAGCCAGCTTCCAGCAGAAGGGGATGCTGGGGCAGAGTG
GGCTGCAGCTGTTCTTAAGCAGGAGAGAGCTCATGAGGTGGGGGCCAGGGTGGGGCCACC
TGTGGCACAAGTGGAGCAGGACCTCCCTATCTCAAGAGAGAACCTCACAGATCTGGTGGTG
GACACAGACACTCTAGGGGAATCCACCCAGCCACAGAGAGAGGGAGCCAGGTCCCCACA
GGAAGGGAGAGAGAAACATGTGGGTGGGACCAAGGACTCTGAAGACAACATATGGTGATT
CTGAAGATCTGGACCTACAAGCTACCCAGTGCTTTCTGGAGAATCAGGGCCTGGAAGCAGT
CCAGAGCATGGAGGATGAACCTACCCAGGCCTTCATGTTGACTCCACCCCAAGAGCTTGGC
CCTTCCCATTCAGCTTCCAGACAACAGGTACCCTAGATGAACCATGGGAGGTCTGGGCTA
CACAGCCATTCTGTCTGAGAGAGTCTGAGGACTCTGAGACCCAGCCTTTTGACACGCACCTT
GAGGCCTATGGACCTTGCCTGTCTCCACCTAGGGCAATACCAGGAGACCAACATCCAGAGA
GCCCAGTTCACACAGAGCCAATGGGGATTCAAGGCAGAGGGAGGCAGACTGTGGATAAAGT
CATGGGTATACCAAAAGAAACAGCAGAGAGGGTGGGCCCTGAGAGAGGGCCATTGGAGAG
AGAAACTGAGAACTGCTACCAGAAAGACAGACAGATGTGACAGGAGAGGAAGAATTAACC
AAGGGGAAACAGGACAGAGAAACAAAACAGTTGTTAGCTAGAGACACCCAGAGACAAGAAT
CTGACAAAAATGGGGAAAGTGCAAGTCTGAAAGAGATAGGGAGAGTTTGAAGGTAGAAATT
GAGACATCTGAGGAAATACAAGAGAAACAAGTACAGAAGCAGACCTTCCAAGCAAAGCATT
TGAGAGAGAAGTAGAGAGACCAGTAGCAAACAGAGAGTGCGATCCAGCCGAGTTAGAAGAG
AAGGTGCCCAAAGTGATCCTGGAGAGAGATACACAGAGAGGGGAGCCAGAGGGAGGGAGC
CAGGACCAGAAAGGGCAGGCCTCCAGCCCAACACAGAGCCTGGGGTGGGGCGGGGGA
CCTTCCGGGACCTACCTCAGCCCCGTACCTTCTGGGAGCCAGTCAGGTGGAAGGGGATC
CCCAGTGAGCCCCAGGAGCATCAAGAAAGGCCTCCTGAATTGCAAGATGCCACCTGCTGAG
AAGGCTTCCAGGATCAGAGCTGCTGAGAAGGTTTCCAGGGGCGATCAGGAATCTCCAGATG
CTTGTCTGCCTCCTGCAGTACCTGAAGCCCCAGCCCCACCCCAAAAGCCCCCTTAAGTCTCA
GAGCCAGAAACATCTTGACCTCCGCCCTTCTTTCTCCCTTTTACCTTCTATCAAGCCAAC
CGTTCGTAAGACCAGGCAAGATGGGAGTCAGGAAGCTCCAGAGGCTCCCTTGTCTCAGAG

CTGGAGCCTTTCCACCCAAAGCCTAAAATTAGAACTCGGAAGTCCTCCAGAATGACACCCTT
TCCAGCTACCTCTGCTGCCCCTGAGCCCCACCCTTCCACCTCCACAGCCCAGCCAGTCACT
CCCAAGCCCACATCTCAGGCCACTAGGAGCAGGACAAATAGGTCCTCTGTCAAGACCCCTG
AAGCAGTTGTCCCCACAGCCCCTGAGCTCCAGCCTTCCACCTCCACAGACCAGCCTGTCAC
CTCTGAGCCCACATCTCAGGTTACTAGGGGAAGAAAAAGTAGATCCTCTGTCAAGACCCCTG
AAACAGTTGTGCCCACAGCCCCTTGAAGCTCCAGCCTTCCACCTCCACCGACCGACCTGTCAC
CTCTGAACCCACCTCTCAGGCTACTAGGGGAAGAAAAATAGATCCTCTGTCAAGACCCCTG
AACCAGTTGTCCCCACAGCCCCTGAGCTCCAGCCTTCCACCTCCACAGACCAGCCTGTCAC
TTCTGAGCCCACATATCAGGCTACTAGGGGAAGAAAAATAGATCCTCTGTCAAGACCCCTG
AACCAGTTGTGCCCACAGCCCCTGAGCTCCGGCCTTCCACCTCCACAGACCAGCCTGTCAC
CCCCAAGCCCACATCTCGGACCACTAGGAGCAGGACAAATATGTCCTCTGTCAAGACCCCT
GAAACAGTTGTCCCCACAGCCCCTGAGCTCCAGATTTCCACCTCCACAGACCAACCTGTCAC
CCCTAAGCCCACATCTCGGACCACTAGGAGCAGGACAAATATGTCCTCTGTGAAGAACCCT
GAATCAAC.TGTCCCTATAGCCCCTGAGCTCCCACCTTCCACCTCCACAGAGCAGCCTGTCAC
CCCTGAGCCCACATCTCGGGCTACTAGGGGAAGAAAAATAGATCCTCTGGCAAGACCCCT
GAAACACTTGTCCCCACAGCCCCTAAGCTCGAGCCTTCCACTTCCACAGACCAACCTGTCAC
TCCTGAGCCCACATCTCAGGCCACCAGGGGCAGGACAAATAGGTCCTCTGTGAAGACCCCT
GAAACAGTTGTCCCCACAGCCCCTGAGCTCCAGCCTTCCACCTCCACAGACCAGCCTGTTA
CCCCGAGCCTACGTCTCAGGCTACTAGGGGAAGAACAGATAGATCCTCTGTCAAGACTCC
TGAAACAGTTGTCCCCACAGCCCCTGAGCTACAGGCTTCCGCCTCCACAGACCAGCCTGTC
ACCTCTGAGCCCACATCTCGGACCACTAGGGGAAGAAAAATCGGTCTCTGTCAAGACCC
CTGAAACAGTTGTGCCCACAGCCCCTGAGCTCCAGCCTCCACCTCCACAGACCAGCCTGT
CACCCCTGAGCCCACATCTCGGGCCACTAGGGGCAGGACAAATAGGTCCTCTGTCAAGACC
CCTGAATCAATTGTCCCTATAGCCCCTGAGCTTCAGCCTTCCACCTCCACAGAACCCAGTTGT
CACCCCTGAGCCCACATCTCGGGCCACTAGGGGCAGGACAAATAGGTCCTCTGTCAAGACC
CCTGAGCCAGTTGTCCCCACAGCCCCTGAGCCCCTACCTACCACCTCCACAGACCAGCCTG
TCACCCCCAAGCTCACATCTAGGGCCACTAGGAGAAAGACAAATAGGTCCTCTGTCAAGACT
CCCAAACAGTTGAACAGCAGCCTCTGATCTTGAGCCTTTTACCCCCACAGACCAGTCCGT
CACCCCTGAGGCCATAGCTCAGGGTGGTCAGAGCAAAACACTGAGGTCTTCCACAGTAAGA
GCTATGCCGGTTCTACCACCCCTGAATTCCAATCTCCTGTCAACACAGACCAGCCTATTTT
CCCTGAGCCTATTACTCAACCCAGTTGCATCAAGAGGCAGAGAGCCGCTGGGAACCCCTGGC
TCCCTCGCAGCTCCCATGACCATAAGCCTTGCTCTGCACCCTTGGAACCTAAATCCCAGGC
CTCAAGGAACCAAAGATGGGGAGCAGTGAGAGCAGCTGAATCCCTTACAGCCATTCTGAG
CCTGCCTCTCCCCAGCTTCTTGAGACACCAATTATGCCTCCAGATCCAAAAGGTGGAACC
AGCAGGTAGATCTAGGTTACCCCGGAGCTCCAGCCTAAGGCCTCTCAAAGCCGCAAGAGG
TCTTTAGCTACCATGGATTACCAACCATCAAAAACAGCCCCAAAGAGGGGAAGTCTCCCA
GAAGACAGTGATTATCAAGGAAGAGGAAGAAGATACTGCAGAGAAGCCAGGGAAGGAAGAG
GATGTCGTGACTCCAAAACAGGCAAGAGAAAGAGAGACCAGGCAGAGGAGGAGCCCAAC
AGAATACCAAGCCGACGCTCCGACGGACCAAACTTAACCAAGAATCAACAGCCCCCAAAG
TGCTCTTACAGGAGTGGTGGATGCTCGGGGAGAGCGGGCTGTGCTGGCACTGGGGGGAA
GTCTGGCTGGTTCAGCGGCAGAGGCTTCCACCTGGTCACTGATCGCATCCGCCGGACAGT
CAAGTTCCTGTGTGCCCTGGGGCGGGGAATCCCCATTCTGTCCCTGGACTGGCTGCATCAG
TCCCGCAAGGCTGGTTTCTTACCCCCGGATGAATATGTGGTGACCGACCCTGAGCAAG
AGAAGAACCTTTGGCTTTAGCCTTCAAGACGCACTGAGCAGGGCTCGGGAGCGAAGGCTGCT
AGAGGGCTATGAGATCTATGTGACCCCTGGAGTCCAGCCACCACCACCTCAGATGGGAGAG
ATTATTAGCTGCTGTGGAGGCACATACCTACCCAGCATGCCTCGGTCTATAAGCCTCAGAG
AGTTGTGATCACATGCCCTCAGGACTTCCCTCATTGCTCCATTCCACTACGGGTTGGGCTGC
CCCTCCTCTCGCTGAGTTCTCTGCTGACTGGAGTGCTGAAGCAGGAAGCCAAGCCAGAGGC
CTTTGTCCTCTCCCCTTTGGAGATGTCATCCACCTGA

Figure 27 (continued)

Figure 28
53BP1

>gi|5032189|ref|NP_005648.1| tumor protein p53 binding protein, 1; tumor protein 53-binding protein, 1; tumor protein p53-binding protein, 1 [Homo sapiens]
MDPTGSQLDSDFSQQDTPCLIIEDSQPESQVLEDDSGSHFSMLSRHLPNLQTHKENPVLDVVS
PEQTAGEERGDGNSGFNEHLKENKVADPVDSSNLDTCGSISQVIEQLPQPNRTSSVLGMSVES
APAVEEEKGEELEQKEKEKEEDTSGNTTHSLGAEDTASSQLGFGVLELSQSQDVEENTVPYEVD
KEQLQSVTTNSGYTRLSDVDANTAIAKHEEQSNEDIPIAEQSSKDIPVTAQPSKDVHVVEQNPPP
ARSEDMPFSPKASVAAMEAKEQLSAQELMESGLQIQKSPEPEVLSTQEDLFDQSNKTVSSDGC
STPSREEGGCSLASTPATTLLHLLQLSGQRSLVQDSLSTNSSDLVAPSPDAFRSTPFIVPSSPTEQ
EGRQDKPMDTSVLSEEGGEPFQKKLQSGEPVELENPPLLPESTVSPQASTPISQSTPVFPPGSL
PIPSQPQFSDHIFIPSPSLEEQSNKGKKGDMHSSSLTVECSKTSEIEPKNSPEDLGLSLTGDCS
KLMLSTSEYSQSPKMESLSSHRIEDGENTQIEDTEPMSPVLNSKFVPAENDSILMNPADQGEV
QLSQNDKTKGDDTDTRDDISILATGCKGREETVAEDVCIDLTCDSGSQAVPSPATRSEALSSVL
DQEEAMEIKEHHPEEGSSGSEVEEIPETPCESQGEELKEENMESVPLHLSLTETQSQGLCLQKE
MPKKECSEAMEVETSVISIDSPQKLALDQELEHKEQEAWEETSEDSSVVIVDVKEPSPRVDVS
CEPLEGVEKCSDSQSWEDIAPEIEPCAENRLDTKEEKSVEYEGDLKSGTAETEPVEQDSSQPSL
PLVRADDPLRLDQELQQPQTQEKTSNSLTEDSKMANAKQLSSDAEAQKL GKPSAHASQSFCES
SSETPFHFTLPKEGDIIPLLTGATPPLIGHLKLKLEPKRHSTPIGISNYPESTIATSDVMSESMVETHDP
ILGSGKGDGAAPDVDDKLCLRMKLVSPETEASEESLQFNLEKPATGERKNGSTAVAESVASPQ
KTMSVLSCICEARQENEARSEDPPPTPIRGNLLHFPSSQGEKEKELEGDHTIRQSQQPMKPISP
VKDPVSPASQKMVIQGPSSPQGEAMVTDVLEDQKEGRSTNKENPSKALIERPSQNNIGIQTMEC
SLRVPETVSAATQTIKNVCEQGTSTVDQNFQKQDATVQTERGSGEKPVSAAGDDTESLHSSQGE
EEFDMPQPPHGHVLRHMRITIREVRLTVTRVITDVYYVDGTEVERKVTEETEEPIVECQECETE
SPSQTGSSGDLGDISSFSKASSLHRTSSGTSLSAMHSSGSSGKGAGPLRGKTSGETPADFA
LPSSRGGPGKLSPRKGVSQTGTPVCEEDGDAGLGIRQGGKAPVTPRGRGRRRGRPPSRTTGTR
ETAVPGPLGIEDISPNLSPDDKSFSRVVPRVPDSTRRTDVGAGALRRSDSPEIPFQAAAGPSDGL
DASSPGNSFVGLRVVAKWSSNGYFYSGKITRDVGAGKYKLLFDDGYECDVLGKDILLCDPIPLDT
EVTALSEDEYFSAGVVKGHRKESGELYYSIEKEGQRKWKYKRMVILSLEQGNRLREQYGLGPYE
AVTPLTKAADISLDNLVEGKRKRRSNVSSPATPTASSSSSTTPTRKITESPRASMGVLSGKRKLIT
SEEERSPAKRGRKSATVKPGAVGAGEFVSPCESGDNTGEPSALEEQRGPLPLNKTFLGLYAFLL
TMATTSDKLASRSKLPDGP TGSSSEEEEFLEIPPFNKQYTESQLRAGAGYILED FNEAQCNTAYQ
CLLIADQHCRTKYFLCLASGIPCVSHVWVHDSCHANQLQNYRNYLLPAGYSLEEQRILDWQPR
ENPFQNLKVLVSDQQQNFLWSEILMTGGAASVKQHSSAHNKDIALGVFDVVVTDPSCPAS
VLKCAEALQLPVVSQEWVIQCLIVGERIGFKQHPKYKHDYVSH

Figure 29

>gi|5032188:174-6092 Homo sapiens tumor protein p53 binding protein, 1 (TP53BP1), mRNA
ATGGACCCTACTGGAAGTCAGTTGGATTTCAGATTTCTCTCAGCAAGATACTCCTTGCCTGAT
AATTGAAGATTCTCAGCCTGAAAGCCAGGTTCTAGAGGATGATTCTGGTTCTCACTTCAGTAT
GCTATCTCGACACCTTCCTAATCTCCAGACGCACAAAGAAAATCCTGTGTTGGATGTTGTGT
CCAATCCTGAACAAACAGCTGGAGAAGAACGAGGAGACGGTAATAGTGGGTTCAATGAACA
TTTGAAGAAAACAAGGTTGCAGACCCTGTGGATTCTTCTAACTTGGACACATGTGGTTCCAT
CAGTCAGGTCATTGAGCAGTTACCTCAGCCAAACAGGACAAGCAGTGTTCTGGGAATGTCA
GTGGAATCTGCTCCTGCTGTGGAGGAAGAGAAGGGAGAAGAGTTGGAACAGAAGGAGAAA
GAGAAGGAAGAAGATACTTCAGGCAATACTACACATTCCCTTGGTGCTGAAGATACTGCCTC
ATCACAGTTGGGTTTTGGGGTTCTGGAACCTCTCCAGAGCCAGGATGTTGAGGAAAATACTG
TGCCATATGAAGTGGACAAAGAGCAGCTACAATCAGTAACCACCAACTCTGGTTATACCAGG
CTGTCTGATGTGGATGCTAATACTGCAATTAAGCATGAAGAACAGTCCAACGAAGATATCCC
CATAGCAGAACAGTCCAGCAAGGACATCCCTGTGACAGCACAGCCAGTAAGGATGTACAT
GTTGTAAAAGAGCAAAATCCACCACCTGCAAGGTCAGAGGACATGCCTTTTAGCCCCAAAGC
ATCTGTTGCTGCTATGGAAGCAAAAGAACAGTTGTCTGCACAAGAACTTATGGAAAGTGGAC
TGCAGATTGAGAAGTCACCAGAGCCTGAGGTTTTGTCAACTCAGGAAGACTTGTGTTGACCAG
AGCAATAAAACAGTATCTTCTGATGGTTGCTCTACTCCTTCAAGGGAGGAAGGTGGGTGTTT
TTTGGCTTCCACTCCTGCCACCACTCTGCATCTCCTGCAGCTCTCTGGTCAGAGGTCCCTTG
TTCAGGACAGTCTTCCACGAATTCTTCAGATCTTGTGCTCCTTCTCCTGATGCTTTCGAT
CTACTCCTTTTATCGTTCCTAGCAGTCCCACAGAGCAAGAAGGGAGACAAGATAAGCCAATG
GACACGTCAGTGTTATCTGAAGAAGGAGGAGAGCCTTTTCAGAAGAACTTCAAAGTGGTGA
ACCAGTGGAGTTAGAAAACCCCCCTCTCCTGCCTGAGTCCACTGTATCACCACAAGCCTCAA
CACCATATCTCAGAGCACACCAGTCTTCCCTCCTGGGTCACTTCCTATCCCATCCCAGCCT
CAGTTTTCTCATGACATTTTTATTCTTCCCCAAGTCTGGAAGAACAATCAAATGATGGGAAG
AAAGATGGAGATATGCATAGTTCATCTTTGACAGTTGAGTGTTCTAAACTTCAGAGATTGAA
CCAAAGAATTCCCCTGAGGATCTTGGGCTATCTTTGACAGGGGATTCTTGCAAGTTGATGCT
TTCTACAAGTGAATATAGTCAGTCCCCAAAGATGGAGAGCTTGAGTTCTCACAGAATTGATG
AAGATGGAGAAAACACACAGATTGAGGATACGGAACCCATGTCTCCAGTTCTCAATTCTAAA
TTTGTTCTGCTGAAAATGATAGTATCCTGATGAATCCAGCACAGGATGGTGAAGTACAAC
GAGTCAGAATGATGACAAAACAAAGGGAGATGATACAGACACCAGGGATGACATTAGTATTT
TAGCCACTGGTTGCAAGGGCAGAGAAGAAACGGTAGCAGAAGATGTTTGTATTGATCTCACT
TGTGATTGCGGGAGTCAGGCAGTTCGGTACCAGCTACTCGATCTGAGGCATTTCTAGTG
GTTAGATCAGGAGGAAGCTATGGAATTAAGAAACACCATCCAGAGGAGGGGTCTTCAGGG
TCTGAGGTGGAAGAAATCCCTGAGACACCTTGTGAAAGTCAAGGAGAGGAACTCAAAGAAG
AAAATATGGAGAGTGTTCCGTTGCACCTTTCTCTGACTGAAACTCAGTCCCAAGGGTGTGT
CTTCAAAAGGAAATGCCAAAAAAGAATGCTCAGAAGCTATGGAAGTTGAAACCAGTGATGAT
TAGTATTGATTCCTTCAAAGTTGGCAATACTTGACCAAGAATTGGAACATAAGGAACAGG
AAGCTTGGGAAGAAGCTACTTCAGAGGACTCCAGTGTTGTGCTAGATGTGAAAGAGCCA
TCTCCCAGAGTTGATGTTTCTTGTGAACCTTTGGAGGGAGTGGAGAAGTGCTCAGATTCCCA
GTCATGGGAGGATATTGCTCCAGAAATAGAACCATGTGCTGAGAATAGATTAGACACCAAGG
AAGAAAAGAGTGTAAGATATGAAGGAGATCTGAAATCAGGGACTGCAGAAACAGAACCTGTA
GAGCAAGATTCTTCACAGCCTTCTTACCTTTAGTGAGAGCAGATGATCCTTTAAGACTTGAC
CAGGAGTTGCAGCAGCCCCAAACTCAGGAGAAAACAAGTAATTCATTAACAGAAGACTCAAA
AATGGCTAATGCAAAGCAGCTAAGCTCAGATGCAGAGGCCAGAGCTGGGGAAGCCCTCT
GCCCATGCCTCACAAAGCTTCTGTGAAAGTTCTAGTGAAACCCCATTTTCACTTTCCTTGCCT
AAAGAAGGTGATATCATCCCACCATGACTGGTGCAACCCACCTCTTATTGGGCACCTAAA
ATTGGAGCCCAAGAGACACAGTACTCCTATTGGTATTAGCAACTATCCAGAAAGCACCATAG
CAACCAGTGATGTCATGTCTGAAAGCATGGTGGAGACCCATGATCCCATACTTGGGAGTGG
AAAAGGGGATTCTGGGGCTGCCCCAGACGTGGATGATAAATTATGTCTAAGAATGAACTGG
TAGTCCTGAGACTGAGGCGAGTGAAGAGTCTTTGCAGTTCAACCTGGAAAAGCCTGCAACT
GGTGAAAGAAAAAATGGATCTACTGCTGTTGCTGAGTCTGTTGCCAGTCCCCAGAAGACCAT
GTCTGTGTTGAGCTGTATCTGTGAAGCCAGGCAAGAGAATGAGGCTCGAAGTGAGGATCCC
CCCACCACACCCATCAGGGGGAACTTGCTCCACTTTCCAAGTTCTCAAGGAGAAGAGGAGA
AAGAAAAATTGGAGGGTGACCATACAATCAGGCAGAGTCAACAGCCTATGAAGCCCATAGT
CCTGTCAAGGACCCTGTTTCTCCTGCTTCCCAGAAGATGGTCATACAAGGGCCATCCAGTCC

TCAAGGAGAGGCAATGGTGACAGATGTGCTAGAAGACCAGAAAGAAGGACGGAGTACTAAT
AAGGAAAAATCCTAGTAAGGCCTTGATTGAAAGGCCAGCCAAAATAACATAGGAATCCAAAC
CATGGAGTGTTCTTGAGGGTCCCAGAACTGTTTCAGCAGCAACCCAGACTATAAGAATG
TGTGTGAGCAGGGGAGCAGTACAGTGGACCAGAACTTTGGAAAGCAAGATGCCACAGTTCA
GACTGAGAGGGGGAGTGGTGAGAAACCAGTCAGTGCTCCTGGGGATGATACAGAGTCCGT
CCATAGCCAGGGAGAAGAAGAGTTTTGATATGCCTCAGCCTCCACATGGCCATGTCTTACATC
GTCACATGAGAACAATCCGGGAAGTACGCACACTTGTCACCTCGTGTCTATTACAGATGTGTAT
TATGTGGATGGAACAGAAGTAGAAAGAAAAGTAAGTGAAGGAGACTGAAGAGCCAATTGTAGA
GTGTCAGGAGTGTGAACTGAAGTTTCCCCTTCACAGACTGGGGGCTCCTCAGGTGACCTG
GGGGATATCAGCTCCTTCTCCTCCAAGGCATCCAGCTTACACCGCACATCAAGTGGGACAA
GTCTCTCAGCTATGCACAGCAGTGGAAAGCTCAGGGAAAGGAGCCGGACCACTCAGAGGGA
AAACCAGCGGGACAGAACCCGCAGATTTTGCCTTACCCAGCTCCCGAGGAGGCCAGGAAA
ACTGAGTCCTAGAAAAGGGGTGAGTCAGACAGGGACGCCAGTGTGTGAGGAGGATGGTGA
TGCAGGCCCTTGGCATCAGACAGGGAGGGGAAGGCTCCAGTCACGCCCTCGTGGGCGTGGGCG
AAGGGGCCGCCCACCTTCTCGGACCACTGGAACCAGAGAAACAGCTGTGCCTGGCCCCCTT
GGGCATAGAGGACATTTACCTAACTTGTACCCAGATGATAAATCCTTCAGCCGTGTCTGTG
CCCGAGTGCCAGACTCCACCAGACGAACAGATGTGGGTGCTGGTGCTTTGCGTCGTAGTGA
CTCTCCAGAAATTCCTTTCCAGGCTGCTGCTGGCCCTTCTGATGGCTTAGATGCCTCCTCTC
CAGGAAATAGCTTTGTAGGGCTCCGTGTTGTAGCCAAGTGGTCATCCAATGGCTACTTTTAC
TCTGGGAAAATCACACGAGATGTCCGAGCTGGGAAGTATAAATTGCTCTTTGATGATGGGTA
CGAATGTGATGTGTTGGGCAAAGACATTCTGTTATGTGACCCCATCCCGCTGGACACTGAAG
TGACGGCCCTCTCGGAGGATGAGTATTTCAAGTGCAGGAGTGGTGAAAGGACATAGGAAGGA
GTCTGGGGAAGTGTACTACAGCATTGAAAAAGAGGCCAAAGAAAGTGGTATAAGCGAATG
GCTGTCATCCTGTCTTGGAGCAAGGAAACAGACTGAGAGAGCAGTATGGGCTTGGCCCCCT
ATGAAGCAGTAACACCTCTTACAAAGGCAGCAGATATCAGCTTAGACAATTTGGTGGAAGGG
AAGCGGAAACGGCGCAGTAACGTGAGCTCCCCAGCCACCCCTACTGCCTCCAGTAGCAGCA
GCACAACCCCTACCCGAAAGATCACAGAAAGTCTCGTGCTCCATGGGAGTTCTCTCAGG
CAAAAGAAAACCTTATCACTTCTGAAGAGGAACGGTCCCCTGCCAAGCGAGGTGCGAAGTCT
GCCACAGTAAAACCTGGTGCAGTAGGGGCAGGAGAGTTTGTGAGCCCTGTGAGAGTGGA
GACAACACCGGTGAACCTCTGCCCTGGAAGAGCAGAGAGGGCCTTTGCCTCTCAACAAGA
CCTTGTTTCTGGGCTACGCATTTCTCCTTACCATGGCCACAACCAGTGACAAGTTGGCCAGC
CGCTCCAAACTGCCAGATGGTCTACAGGAAGCAGTGAAGAAGAGGAGGAATTTTTGGAAA
TTCCTCCTTTCAACAAGCAGTATACAGAATCCCAGCTTCGAGCAGGAGCTGGCTATATCCTT
GAAGATTTCAATGAAGCCAGTGTAAACACAGCTTACCAGTGTCTTCTAATTGCGGATCAGCA
TTGTGGAACCCGGAAGTACTTCTGTGCCTTGCCAGTGGGATTCTTGTGTGTCTCATGTCT
GGGTCCATGATAGTTGCCATGCCAACCAGCTCCAGAACTACCGTAATTATCTGTTGCCAGCT
GGGTACAGCCTTGAGGAGCAAAGAATTCTGGACTGGCAACCCCGTGAAAATCCTTTCCAGA
ATCTGAAGGTAATCTTGGTATCAGACCAACAGCAGAACTTCTGGAGCTCTGGTCTGAGATC
CTCATGACTGGTGGTGCAGCCTCTGTGAAGCAGCACCATTCAAGTGCCCATACAAAGATAT
TGCTTTAGGGGTATTTGATGTGGTGGTGACGGACCCCTCATGCCAGCCTCGGTGCTGAAG
TGTGCTGAAGCATTGCAGCTGCCTGTGGTGTCAAGAGTGGGTGATCCAGTGCCTCATTG
TTGGGGAGAGAATTGGATTCAAGCAGCATCCAAAATATAAACACGATTATGTTTCTCACTAA

Figure 29 (continued)

Figure 30
Rad9

>gi|6320423|ref|NP_010503.1| Required for DNA damage-induced G2 arrest in mitosis, required for ionizing radiation-induced G1 arrest, and other cdc13-induced G2 arrest in meiosis; Rad9p [Saccharomyces cerevisiae]

MSGQLVQWKSSPDRVTQSAIKEALHSPLADGDMNEMNVPVDPLENKVNSTNIEGSPKANPNPV
KFMNTSEIFQKSLGLLDESPRHDELNIEVGDNDRPNANILHNERTPDLDRIANFFKSNRTPGKE
NLLTKYQSSDLEDTPMLRKKMTFQTPTDPLEQKTFKKLKSDTGFCYYGEQNDGEENASLEVTE
ADATFVQMAERSADNYDCALEGIVTPKRYKDELSKSGMQDERVQKTQIMISAESPNSISSYDK
NKITGNGRTRNVNKFNNNEDNIGAIEEKNPVKKKSENYSSDDLRENNNQIISNESEEINELEK
NLNVSGRENDVNNLDIDINSVSGTPSRNNAEEEMYSSSVNNREPSKKWIFRYSKDKTENNSN
RSTQIVNNPRTQEMPLDSISIDTQPLSKSFNTETNNELETQIIVSSLSQGISAQKGPVHFSTGQTEE
IKTQIINSPEQNALNATFETPVTLSRINFEPILVPEVTSSPSKNTMSKPSNSSPIPEKDTFNIHERE
VETNNVFSNDIQNSSNAATRDDIIAGSSDFNEQKEITDRIYLQLSGKQISDSGSDETERMSPNEL
DTKKESTIMSEVELTQELPEVEEQQDLQTSPPKKLVVEETLMEIKKSKGNSLQLHDDNKECNSDK
QDGTESLDVALIEHESKGQSSELQKNLMQLFPSESQEIIQNRRTIKRRQKDTIEIGEEEEENRSTKT
SPTKHLKRNSDLDAASIKREPSCSITIQTGETGSGKDSKEQSYVFPEGIRTADNSFLSKDDIIFGNA
VWCQYTWNYKFYPGILLEVDTNQDGCWYFETGRSLTKDEDIYYLDIRIGDAVTFDNEYVVVGL
ECRSHDLNIIIRCIGYDTVHLKKKNASGLLGKRTLIALSSISLDLSEWAKRAKIILEDNEKNKGDA
YRYLRHPIRGRKSMTNVLSPKKHTDDEKDINTHTEVYNNEIESSEKKEIVKKDSRDALAEHAGA
PSLLFSSGEIRTGNVFDKCFVLTSLFENREELRQTIESQGGTVIESGFSTLFNFTHPLAKSLVNKG
NTDNIRELALKLAWKPHSLFADCRFACLITKRHLRSLKYLETLALGWPTLHWKFISACIEKKRIVPH
LIYQYLLPSGESFRLSLDSPSKGGIISNNIFSFTYQFLRGSNLRDQICGVKKMLNDYIVIVWGRSE
LDSFVKFAFACLSAGRMLTIDLPNIDVDDTEPLLNALDSLVPRIGSELSNRKLFILYANENNGKSQ
MKLLERLRSQISLKFKKFNYIFHTESKEWLIQTIINEDTGFDHDDITDNDIYNTISEVR

Figure 31

>gil37362627:c903471-899542 *Saccharomyces cerevisiae* chromosome IV, complete
 chromosome sequence

ATGTCAGGCCAGTTAGTTCAATGGAAAAGCTCTCCAGATCGAGTCACCCAAAGCGCTATAAA
 GGAAGCACTGCATTCTCCCTTGGCTGATGGCGACATGAACGAAATGAATGTTCCCGTTGATC
 CGTTGGAAAACAAGGTAAATAGCACAAACATAATCGAAGGAAGTCCCAAAGCAAATCCAAAT
 CCTGTCAAGTTTATGAATACAAGTGAGATATTTCAAAAATCTCTGGGATTACTTGACGAGAGT
 CCAAGACATGATGATGAGTTAAATATTGAAGTAGGAGATAATGATCGACCAAATGCTAACATA
 TTGCATAATGAAAGGACTCCTGACCTTGACCGAATTGCTAACTTTTTCAAAAGCAAATCGAACC
 CCTGGTAAAGAAAATCTTTTGACCAAATATCAAAGCTCCGATCTGGAAGACACTCCTCTGATG
 TTAAGAAAAAAAATGACTTTTTCAAACCTCAAATGATCCATTGGAACAGAAAACCTTCAAAAAG
 TTGAAGTCAGATACTGGGTTTTGCTATTATGGAGAGCAGAATGATGGAGAAGAAAATGCGTC
 ATTAGAAGTTACAGAGGCGGATGCCACTTTGTACAGATGGCTGAACGTTCTGCTGATAATT
 ATGAGTGTGGATTGGAAGGAATTTGTTAGAGCTAAAAGATATAAAGACGAATTAAGTAAAAGTG
 GAGGAATGCAAGATGAACGAGTTCAAAAAACTCAAATCATGATATCAGCAGAATCACCTAATT
 CGATAAGCTCTTATGACAAGAACAAAATTACCGGGAATGGCCGGACCACAAGAAATGTAAAC
 AAGGTTTTTAACAATAACGAAGATAACATAGGAGCTATCGAGGAAAAAAATCCAGTAAAAAAG
 AAAAGTGAGAACTATTCATCAGATGATCTCAGAGAACGGAACAATCAAATAATACAAAGTAAT
 GAATCAGAGGAGATTAACGAATTGGAAAAGAATCTGAATGTTTCGGGTAGAGAGAATGACGT
 GAACAATTTAGATATCGATATTAATAGTGCTGTGTCTGGCACCCCTTCACGCAACAATGCGG
 AAGAAGAAATGTATTCCAGTGAGAGTGTAACAATCGGGAACCATCCAAGAAGTGGATATTC
 CGATACTCAAAGACAAAACGGAAAATAATAGCAATAGATCTACGCAAATAGTCAATAATCCA
 AGAACACAGGAAATGCCTTTAGATAGTATTTCAATCGATACGCAACCCTTATCTAAAAGTTTC
 AATACCGAAACAAATAATGAATTAGAGACACAGATAATTGTTTCATCGCTTTCCCAAGGCATA
 TCTGCTCAGAAGGGACCTGTTTTTCACTTCTACTGGCCAGACAGAAGAAATAAAAACCCAAATA
 ATAAATTCTCCTGAACAAAATGCTTTGAATGCAACCTTTGAAACTCCCGTTACTCTTTCTCGG
 ATTAATTTGAACCCATATTGGAAGTTCCTGAGACTAGTTCACCATCTAAGAATACGATGTCA
 AAACCTCGAATTCTTCACCTATTCCGAAGGAAAAAGATACATTTAATATACACGAGAGAGAA
 GTAGAGACAAACAATGTTTTTCAAACGATATACAAAATTCTCAAATGCAGCTACCAGAGAT
 GACATTATCATAGCCGGTTCATCTGATTTCAACGAACAAAAGGAAATAACCGATAGAATATAC
 TTACAACCTTCAGGAAAGCAAATATCTGATTCAGGAAGTGATGAAACAGAACGTATGTCCCCA
 AATGAGCTTGATACGAAAAAGGAAAGTACAATCATGAGCGAGGTTGAACTAACCCAAGAACT
 GCCTGAAGTTGAAGAGCAGCAAGATCTTCAAACGTCTCCAAAAAGCTGGTAGTCGAGGAA
 GAACTTTAATGGAGATAAAAAAAGCAAGGGGAACTCACTTCAGCTTCATGATGATAATAAA
 GAATGCAATTGATGATAAACAAGATGGCAGAGAGTCTTTGGATGTAGCTTTGATTGAACACGA
 AAGCAAAGGACAGAGCTCAGAACTTCAGAAAAACCTCATGCAATTATTTCCAAGTGAGTCAC
 AGGAGATTATTGAGAACCGAAGAACAATAAAGCGACGTCAAAAAGATACAATAGAGATCGGT
 GAAGAGGAGGAGAACAGAAGCACTAAGACATCACCGACAAAACACCTCAAAAAGAAATTCAG
 ATTTGGATGCTGCTTCTATCAAAAAGGGAACCGTCTTGACAGCATTACCATACAAACAGGGGAG
 ACAGGTTCCGGGCAAAGACTCTAAAGAACAGTCTTACGTGTTTCTGAAGGTATTAGAACGGC
 AGATAATAGTTTCTTATCGAAAGACGACATAATTTTTGGAAATGCGGTATGGTGTCAGTATAC
 GTGGAATTACAAATTTTATCCGGGTATTTTATTGGAAGTTGACACTAATCAAGATGGCTGTTG
 GATTTATTTGAAACAGGAAGATCGCTAACCAAAGATGAGGACATCTACTACTTAGATATTAG
 AATAGGGGATGCTGTTACCTTTGATGGAATGAGTACGTAGTCGTTGGTCTAGAATGTCGTA
 GCCATGATCTCAACATAATAAGATGTATTGAGGATATGATACGGTTCATTTGAAAAA
 ATGCAAGCGGATTGTTGGGGAAAAGGACGTTAATTAAAGCACTAAGCTCGATCAGTCTTGAC
 CTAAGCGAGTGGGCTAAAAGAGCGAAGATCATATTAGAAGATAATGAGAAAAATAAAGGCGA
 CGCGTATAGGTACTTGAGACATCCCATTAGGGGAAGGAAATCAATGACCAATGTTCTGTCTC
 CGAAGAAACATACTGATGACGAAAAGGACATAAATACGCATACTGAAGTGTACAATAACGAA
 ATAGAATCGAGCTCCGAAAAGAAGGAAATTGTTAAAAGGATTCTAGAGACGCATTAGCTGA
 ACATGCAGGAGCGCCAAGCCTGCTTTTTTCTTCTGGTGAAATCAGAACAGGGAATGTATTTG
 ATAAATGTATTTTTGTTTTGACAAGCCTATTCGAAAATAGAGAGGAACTTCGACAGACCATTG
 AATCGCAAGGCGGCACTGTAATTGAGTCAGGATTTTCACTTTATTTAACTTCACTCATCCGC
 TAGCTAAATCTTTAGTCAATAAAGGTAATACAGATAATATTGAGAATTGGCCTTGAAGCTAG
 CCTGGAAACCTCATTCCCTATTTGCAGACTGCAGATTTGCTTGCCTAATCACAAAACGGCATT
 TAAGAAGCTTAAAGTACTTAGAAAATTTGGCGTTGGGGTGGCCTACACTACACTGGAAATTC

ATAAGTGCATGCATTGAAAAGAAAAGAATAGTACCACATTTAATATACCAATACCTATTACCTT
CGGGTGAAAGTTTTCGGTTATCGTTAGATTCTCCATCAAAGGGAGGAATCATTAAATCCAACA
ATATTTTTTCATTTTATACACAATTCCTACGCGGATCTAATTTAAGAGATCAGATATGTGGAGT
GAAGAAAATGTAAATGACTACATTGTTATTGTTGGGGTAGATCTGAGTTGGACAGTTTTGT
CAAATTTGCTTTTGCATGTTTGAGCGCAGGTAGAATGCTTACAATTGATTTACCCAATATTGA
TG TAGATGATACAGAGCCATTGTTAAATGCCTTAGATTCTTTAGTACCCAGAATAGGATCAGA
ATTATCTAATCGAAAGTTAAAGTTTCTCATATATGCTAACGAAAATAATGGTAAATCTCAGATG
AAGCTTCTCGAAAGATTGAGAAGTCAAATATCACTGAAATTTAAGAAATTTAATTACATATTTT
CACTGAATCTAAAGAATGGCTAATTCAGACAATAATTAACGAGGACACTGGTTTTACGATG
ATATTACGGACAATGATATATACAACACTATTTCTGAGGTTAGATGA

Figure 31 (continued)

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